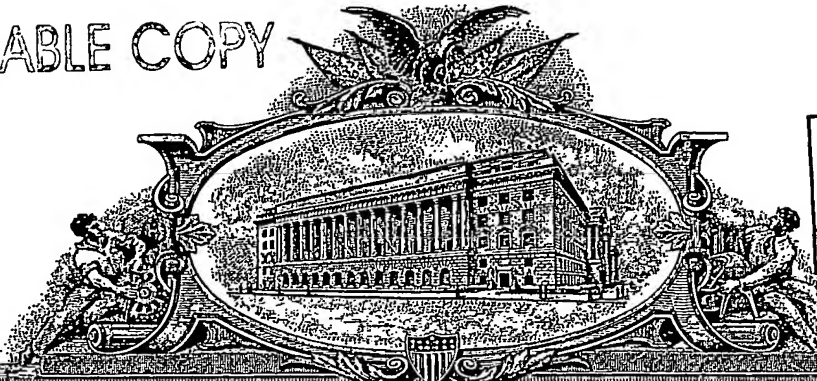


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# THE UNITED STATES OF AMERICA

**TO ALL TO WHOM THESE PRESENTS SHALL COME:**

**UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office**

**April 16, 2004**

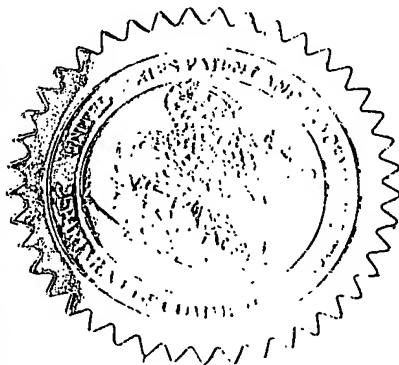
**THIS IS TO CERTIFY THAT ANNEXED HERETO IS A TRUE COPY FROM  
THE RECORDS OF THE UNITED STATES PATENT AND TRADEMARK  
OFFICE OF THOSE PAPERS OF THE BELOW IDENTIFIED PATENT  
APPLICATION THAT MET THE REQUIREMENTS TO BE GRANTED A  
FILING DATE.**

**APPLICATION NUMBER: PCT/US03/27772**

**FILING DATE: September 04, 2003**

**RELATED PCT APPLICATION NUMBER: PCT/US03/41273**

**By Authority of the  
COMMISSIONER OF PATENTS AND TRADEMARKS**



*T. Lawrence*

**T. LAWRENCE  
Certifying Officer**

**PRIORITY  
DOCUMENT**  
SUBMITTED OR TRANSMITTED IN  
COMPLIANCE WITH RULE 17.1 (a) OR (b)

TRANSMITTAL LETTER TO THE  
UNITED STATES RECEIVING OFFICE

International Application No.	PCT/US03/27772
Attorney Docket No.	TPI-350

## I. Certification under 37 CFR 1.10 (if applicable)

Express Mail mailing number
-----------------------------

Date of Deposit
-----------------

I hereby certify that the application/correspondence attached hereto is being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 CFR 1.10 on the date indicated above and is addressed to Assistant Commissioner for Patents, Washington, D.C. 20231.

Signature of person mailing correspondence
--

Typed or printed name of person mailing correspondence
--

II. ☐ New International Application

TITLE	
-------	--

Earliest priority date (Day/Month/Year)
--

**SCREENING DISCLOSURE INFORMATION:** In order to assist in screening the accompanying international application for purposes of determining whether a license for foreign transmittal should and could be granted and for other purposes, the following information is supplied. (Note: check as many boxes as apply):

- A. ☐ The invention disclosed was not made in the United States.
- B. ☐ There is no prior U.S. application relating to this invention.
- C. ☐ The following prior U.S. application(s) contain subject matter which is related to the invention disclosed in the attached international application. (NOTE: priority to these applications may or may not be claimed on form PCT/RO/101 (Request) and this listing does not constitute a claim for priority.)

application no.		filed on	
application no.		filed on	

- D. ☐ The present international application contains additional subject matter not found in the prior U.S. application(s) identified in paragraph C. above. The additional subject matter is found on pages 

--

 and ☐ DOES NOT ALTER ☐ MIGHT BE CONSIDERED TO ALTER the general nature of the invention in a manner which would require the U.S. application to have been made available for inspection by the appropriate defense agencies under 35 U.S.C. 181 and 37 CFR 5.1. See 37 CFR 5.15

III. ☒ A Response to an Invitation from the RO/US. The following document(s) is(are) enclosed:

- A. ☐ A Request for An Extension of Time to File a Response
- B. ☒ A Power of Attorney (General or Regular)
- C. ☒ Replacement pages:

pages	1-5	of the request (PCT/RO/101)	pages		of the figures
pages		of the description	pages		of the abstract
pages		of the claims			

- D. ☐ Submission of Priority Documents

Priority document		Priority document	
-------------------	--	-------------------	--

- E. ☐ Fees as specified on attached Fee Calculation sheet form PCT/RO/101 annex

IV. ☐ A Request for Rectification under PCT 91 ☐ A Petition ☐ A Sequence Listing DisketteV. ☒ Other (please specify):

Replacement p.1 to correct Applicant designation; p. 2 and 3 to correct inventor addresses and citizenship and to include Applicant inadvertently omitted; p.4 to include Egypt and US CIP; p.5 to correct typo, "Cont. of Box V" vs. "VI"

The person  
signing this  
form is the:

<input type="checkbox"/> Applicant	Frank C. Eisenschenk, Ph.D.
<input checked="" type="checkbox"/> Attorney/Agent (Reg. No.) 45,332	Typed name of signer
<input type="checkbox"/> Common Representative	Signature



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REQUEST

The undersigned requests that the present international application be processed according to the Patent Cooperation Treaty.

For receiving Office use only 600000127772	
International Application No.	
04 SEP 2003 (04.09.03)	
International Filing Date	
PCT INTERNATIONAL APPLICATION RO/US	
Name of receiving Office and "Patent International Application"	
Applicant's or agent's file reference (if desired) (12 characters maximum) TPI-350 PCT	

<b>Box No. I TITLE OF INVENTION</b>	
Pharmaceutical Co-Crystal Compositions	
<b>Box No. II APPLICANT</b> <input type="checkbox"/> This person is also inventor	
Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)	Telephone No. (781) 674-8000
TRANSFORM PHARMACEUTICALS, INC. 29 Hartwell Avenue Lexington, MA 02421 US	Facsimile No. (781) 863-6519
	Teleprinter No.
	Applicant's registration No. with the Office
State (that is, country) of nationality: US	State (that is, country) of residence: US
This person is applicant for the purposes of: <input type="checkbox"/> all designated States <input type="checkbox"/> all designated States except the United States of America <input checked="" type="checkbox"/> the United States of America only <input type="checkbox"/> the States indicated in the Supplemental Box	
<b>Box No. III FURTHER APPLICANT(S) AND/OR (FURTHER) INVENTOR(S)</b>	
Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)	This person is:
UNIVERSITY OF SOUTH FLORIDA Division of Patents and Licensing 4202 East Fowler Avenue, FAO 126 Tampa, FL 33620-7900 US	<input checked="" type="checkbox"/> applicant only
	<input type="checkbox"/> applicant and inventor
	<input type="checkbox"/> inventor only (If this check-box is marked, do not fill in below.)
Applicant's registration No. with the Office	
State (that is, country) of nationality: US	State (that is, country) of residence: US
This person is applicant for the purposes of: <input type="checkbox"/> all designated States <input type="checkbox"/> all designated States except the United States of America <input checked="" type="checkbox"/> the United States of America only <input type="checkbox"/> the States indicated in the Supplemental Box	
<input checked="" type="checkbox"/> Further applicants and/or (further) inventors are indicated on a continuation sheet.	
<b>Box No. IV AGENT OR COMMON REPRESENTATIVE; OR ADDRESS FOR CORRESPONDENCE</b>	
The person identified below is hereby/has been appointed to act on behalf of the applicant(s) before the competent International Authorities as:	<input checked="" type="checkbox"/> agent <input type="checkbox"/> common representative
Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.)	Telephone No. 352-375-8100
EISENSCHENK, Frank C. Saliwanchik, Lloyd & Saliwanchik A Professional Association 2421 N.W. 41st Street, Suite A-1 Gainesville, FL 32606-6669 US	Facsimile No. 352-372-5800
	Teleprinter No.
	Agent's registration No. with the Office 45,332
<input type="checkbox"/> Address for correspondence: Mark this check-box where no agent or common representative is/has been appointed and the space above is used instead to indicate a special address to which correspondence should be sent.	

Sheet No. ...2...

<b>Continuation of Box No. III FURTHER APPLICANT(S) AND/OR (FURTHER) INVENTOR(S)</b>			
<i>If none of the following sub-boxes is used, this sheet should not be included in the request.</i>			
Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)  <b>Almarsson, Örn</b> <b>22 Farmington Drive</b> <b>Shrewsbury, MA 01545</b> <b>US</b>		This person is: <input type="checkbox"/> applicant only <input checked="" type="checkbox"/> applicant and inventor <input type="checkbox"/> inventor only (If this check-box is marked, do not fill in below.)  Applicant's registration No. with the Office	
State (that is, country) of nationality: <b>IS</b>		State (that is, country) of residence: <b>US</b>	
This person is applicant for the purposes of: <input type="checkbox"/> all designated States <input type="checkbox"/> all designated States except the United States of America <input checked="" type="checkbox"/> the United States of America only <input type="checkbox"/> the States indicated in the Supplemental Box			
Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)  <b>Bourghol Hickey, Magali</b> <b>342 Malden Street</b> <b>Medford, MA 02155</b> <b>US</b>		This person is: <input type="checkbox"/> applicant only <input checked="" type="checkbox"/> applicant and inventor <input type="checkbox"/> inventor only (If this check-box is marked, do not fill in below.)  Applicant's registration No. with the Office	
State (that is, country) of nationality: <b>US</b>		State (that is, country) of residence: <b>US</b>	
This person is applicant for the purposes of: <input type="checkbox"/> all designated States <input type="checkbox"/> all designated States except the United States of America <input checked="" type="checkbox"/> the United States of America only <input type="checkbox"/> the States indicated in the Supplemental Box			
Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)  <b>Peterson, Matthew</b> <b>60 Linda Avenue</b> <b>Framingham, MA 01701</b> <b>US</b>		This person is: <input type="checkbox"/> applicant only <input checked="" type="checkbox"/> applicant and inventor <input type="checkbox"/> inventor only (If this check-box is marked, do not fill in below.)  Applicant's registration No. with the Office	
State (that is, country) of nationality: <b>US</b>		State (that is, country) of residence: <b>US</b>	
This person is applicant for the purposes of: <input type="checkbox"/> all designated States <input type="checkbox"/> all designated States except the United States of America <input checked="" type="checkbox"/> the United States of America only <input type="checkbox"/> the States indicated in the Supplemental Box			
Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)  <b>Zaworotko, Michael J.</b> <b>4202 E. Fowler Ave. (USF30244)</b> <b>Tampa, FL 3362</b> <b>US</b>		This person is: <input type="checkbox"/> applicant only <input checked="" type="checkbox"/> applicant and inventor <input type="checkbox"/> inventor only (If this check-box is marked, do not fill in below.)  Applicant's registration No. with the Office	
State (that is, country) of nationality: <b>US</b>		State (that is, country) of residence: <b>US</b>	
This person is applicant for the purposes of: <input type="checkbox"/> all designated States <input type="checkbox"/> all designated States except the United States of America <input checked="" type="checkbox"/> the United States of America only <input type="checkbox"/> the States indicated in the Supplemental Box			
<input checked="" type="checkbox"/> Further applicants and/or (further) inventors are indicated on another continuation sheet.			

<b>Continuation of Box No. III FURTHER APPLICANT(S) AND/OR (FURTHER) INVENTOR(S)</b> <i>If none of the following sub-boxes is used, this sheet should not be included in the request.</i>	
<p><small>Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)</small></p> <p><b>Moulton, Brian</b>  <b>13455 Century Cove Dr. #325</b>  <b>Temple Terrace, FL 33637</b>  <b>US</b></p>	<p><b>This person is:</b></p> <p><input type="checkbox"/> applicant only</p> <p><input checked="" type="checkbox"/> applicant and inventor</p> <p><input type="checkbox"/> inventor only (If this check-box is marked, do not fill in below.)</p> <p>Applicant's registration No. with the Office</p>
<p>State (that is, country) of nationality: <b>US</b></p>	<p>State (that is, country) of residence: <b>US</b></p>
<p>This person is applicant for the purposes of: <input type="checkbox"/> all designated States <input type="checkbox"/> all designated States except the United States of America <input checked="" type="checkbox"/> the United States of America only <input type="checkbox"/> the States indicated in the Supplemental Box</p>	
<p><small>Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)</small></p> <p><b>Rodriguez-Hornedo, Nair</b>  <b>1690 Northbrook Dr.</b>  <b>Ann Arbor, MI 48103</b>  <b>US</b></p>	<p><b>This person is:</b></p> <p><input type="checkbox"/> applicant only</p> <p><input checked="" type="checkbox"/> applicant and inventor</p> <p><input type="checkbox"/> inventor only (If this check-box is marked, do not fill in below.)</p> <p>Applicant's registration No. with the Office</p>
<p>State (that is, country) of nationality: <b>US</b></p>	<p>State (that is, country) of residence: <b>US</b></p>
<p>This person is applicant for the purposes of: <input type="checkbox"/> all designated States <input type="checkbox"/> all designated States except the United States of America <input checked="" type="checkbox"/> the United States of America only <input type="checkbox"/> the States indicated in the Supplemental Box</p>	
<p><small>Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)</small></p> <p> </p>	<p><b>This person is:</b></p> <p><input type="checkbox"/> applicant only</p> <p><input type="checkbox"/> applicant and inventor</p> <p><input type="checkbox"/> inventor only (If this check-box is marked, do not fill in below.)</p> <p>Applicant's registration No. with the Office</p>
<p>State (that is, country) of nationality:</p>	<p>State (that is, country) of residence:</p>
<p>This person is applicant for the purposes of: <input type="checkbox"/> all designated States <input type="checkbox"/> all designated States except the United States of America <input type="checkbox"/> the United States of America only <input type="checkbox"/> the States indicated in the Supplemental Box</p>	
<p><small>Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)</small></p> <p> </p>	<p><b>This person is:</b></p> <p><input type="checkbox"/> applicant only</p> <p><input type="checkbox"/> applicant and inventor</p> <p><input type="checkbox"/> inventor only (If this check-box is marked, do not fill in below.)</p> <p>Applicant's registration No. with the Office</p>
<p>State (that is, country) of nationality:</p>	<p>State (that is, country) of residence:</p>
<p>This person is applicant for the purposes of: <input type="checkbox"/> all designated States <input type="checkbox"/> all designated States except the United States of America <input type="checkbox"/> the United States of America only <input type="checkbox"/> the States indicated in the Supplemental Box</p>	
<p><input type="checkbox"/> Further applicants and/or (further) inventors are indicated on another continuation sheet.</p>	

## Box No. V DESIGNATION OF STATES

Mark the applicable check-boxes below: at least one must be marked.

The following designations are hereby made under Rule 4.9(a):

## Regional Patent

- ☒ AP ARIPO Patent: GH Ghana, GM Gambia, KE Kenya, LS Lesotho, MW Malawi, MZ Mozambique, SD Sudan, SL Sierra Leone, SZ Swaziland, TZ United Republic of Tanzania, UG Uganda, ZM Zambia, ZW Zimbabwe, and any other State which is a Contracting State of the Harare Protocol and of the PCT (if other kind of protection or treatment desired, specify on dotted line) .....
- ☒ EA Eurasian Patent: AM Armenia, AZ Azerbaijan, BY Belarus, KG Kyrgyzstan, KZ Kazakhstan, MD Republic of Moldova, RU Russian Federation, TJ Tajikistan, TM Turkmenistan, and any other State which is a Contracting State of the Eurasian Patent Convention and of the PCT
- ☒ EP European Patent: AT Austria, BE Belgium, BG Bulgaria, CH & LI Switzerland and Liechtenstein, CY Cyprus, CZ Czech Republic, DE Germany, DK Denmark, EE Estonia, ES Spain, FI Finland, FR France, GB United Kingdom, GR Greece, HU Hungary, IE Ireland, IT Italy, LU Luxembourg, MC Monaco, NL Netherlands, PT Portugal, RO Romania, SE Sweden, SI Slovenia, SK Slovakia, TR Turkey, and any other State which is a Contracting State of the European Patent Convention and of the PCT
- ☒ OA OAPI Patent: BF Burkina Faso, BJ Benin, CF Central African Republic, CG Congo, CI Côte d'Ivoire, CM Cameroon, GA Gabon, GN Guinea, GQ Equatorial Guinea, GW Guinea-Bissau, ML Mali, MR Mauritania, NE Niger, SN Senegal, TD Chad, TG Togo, and any other State which is a member State of OAPI and a Contracting State of the PCT (if other kind of protection or treatment desired, specify on dotted line) .....

## National Patent (if other kind of protection or treatment desired, specify on dotted line):

- |   |  |   |
|---|--|---|
| <input checked="" type="checkbox"/> AE United Arab Emirates               | <input checked="" type="checkbox"/> HR Croatia                                   | <input checked="" type="checkbox"/> OM Oman                             |
| <input checked="" type="checkbox"/> AG Antigua and Barbuda                | <input checked="" type="checkbox"/> HU Hungary                                   | <input checked="" type="checkbox"/> PG Papua New Guinea                 |
| <input checked="" type="checkbox"/> AL Albania                            | <input checked="" type="checkbox"/> ID Indonesia                                 | <input checked="" type="checkbox"/> PH Philippines                      |
| <input checked="" type="checkbox"/> AM Armenia                            | <input checked="" type="checkbox"/> IL Israel                                    | <input checked="" type="checkbox"/> PL Poland                           |
| <input checked="" type="checkbox"/> AT Austria                            | <input checked="" type="checkbox"/> IN India                                     | <input checked="" type="checkbox"/> PT Portugal                         |
| <input checked="" type="checkbox"/> AU Australia                          | <input checked="" type="checkbox"/> IS Iceland                                   | <input checked="" type="checkbox"/> RO Romania                          |
| <input checked="" type="checkbox"/> AZ Azerbaijan                         | <input checked="" type="checkbox"/> JP Japan                                     | <input checked="" type="checkbox"/> RU Russian Federation               |
| <input checked="" type="checkbox"/> BA Bosnia and Herzegovina             | <input checked="" type="checkbox"/> KE Kenya                                     | <input checked="" type="checkbox"/> SC Seychelles                       |
| <input checked="" type="checkbox"/> BB Barbados                           | <input checked="" type="checkbox"/> KG Kyrgyzstan                                | <input checked="" type="checkbox"/> SD Sudan                            |
| <input checked="" type="checkbox"/> BG Bulgaria                           | <input checked="" type="checkbox"/> KP Democratic People's Republic of Korea     | <input checked="" type="checkbox"/> SE Sweden                           |
| <input checked="" type="checkbox"/> BR Brazil                             | <input checked="" type="checkbox"/> KR Republic of Korea                         | <input checked="" type="checkbox"/> SG Singapore                        |
| <input checked="" type="checkbox"/> BY Belarus                            | <input checked="" type="checkbox"/> KZ Kazakhstan                                | <input checked="" type="checkbox"/> SK Slovakia                         |
| <input checked="" type="checkbox"/> BZ Belize                             | <input checked="" type="checkbox"/> LC Saint Lucia                               | <input checked="" type="checkbox"/> SL Sierra Leone                     |
| <input checked="" type="checkbox"/> CA Canada                             | <input checked="" type="checkbox"/> LK Sri Lanka                                 | <input checked="" type="checkbox"/> SY Syrian Arab Republic             |
| <input checked="" type="checkbox"/> CH & LI Switzerland and Liechtenstein | <input checked="" type="checkbox"/> LR Liberia                                   | <input checked="" type="checkbox"/> TJ Tajikistan                       |
| <input checked="" type="checkbox"/> CN China                              | <input checked="" type="checkbox"/> LS Lesotho                                   | <input checked="" type="checkbox"/> TM Turkmenistan                     |
| <input checked="" type="checkbox"/> CO Colombia                           | <input checked="" type="checkbox"/> LT Lithuania                                 | <input checked="" type="checkbox"/> TN Tunisia                          |
| <input checked="" type="checkbox"/> CR Costa Rica                         | <input checked="" type="checkbox"/> LU Luxembourg                                | <input checked="" type="checkbox"/> TR Turkey                           |
| <input checked="" type="checkbox"/> CU Cuba                               | <input checked="" type="checkbox"/> LV Latvia                                    | <input checked="" type="checkbox"/> TT Trinidad and Tobago              |
| <input checked="" type="checkbox"/> CZ Czech Republic                     | <input checked="" type="checkbox"/> MA Morocco                                   | <input checked="" type="checkbox"/> TZ United Republic of Tanzania      |
| <input checked="" type="checkbox"/> DE Germany                            | <input checked="" type="checkbox"/> MD Republic of Moldova                       | <input checked="" type="checkbox"/> UA Ukraine                          |
| <input checked="" type="checkbox"/> DK Denmark                            | <input checked="" type="checkbox"/> MG Madagascar                                | <input checked="" type="checkbox"/> UG Uganda                           |
| <input checked="" type="checkbox"/> DM Dominica                           | <input checked="" type="checkbox"/> MK The former Yugoslav Republic of Macedonia | <input checked="" type="checkbox"/> US United States of America         |
| <input checked="" type="checkbox"/> DZ Algeria                            | <input checked="" type="checkbox"/> MN Mongolia                                  | <input checked="" type="checkbox"/> UZ Uzbekistan                       |
| <input checked="" type="checkbox"/> EC Ecuador                            | <input checked="" type="checkbox"/> MW Malawi                                    | <input checked="" type="checkbox"/> VC Saint Vincent and the Grenadines |
| <input checked="" type="checkbox"/> EE Estonia                            | <input checked="" type="checkbox"/> MX Mexico                                    | <input checked="" type="checkbox"/> VN Viet Nam                         |
| <input checked="" type="checkbox"/> ES Spain                              | <input checked="" type="checkbox"/> MZ Mozambique                                | <input checked="" type="checkbox"/> YU Serbia and Montenegro            |
| <input checked="" type="checkbox"/> FI Finland                            | <input checked="" type="checkbox"/> NI Nicaragua                                 | <input checked="" type="checkbox"/> ZA South Africa                     |
| <input checked="" type="checkbox"/> GB United Kingdom                     | <input checked="" type="checkbox"/> NO Norway                                    | <input checked="" type="checkbox"/> ZM Zambia                           |
| <input checked="" type="checkbox"/> GD Grenada                            | <input checked="" type="checkbox"/> NZ New Zealand                               | <input checked="" type="checkbox"/> ZW Zimbabwe                         |
| <input checked="" type="checkbox"/> GE Georgia                            |  |   |
| <input checked="" type="checkbox"/> GH Ghana                              |  |   |
| <input checked="" type="checkbox"/> GM Gambia                             |  |   |

Check-boxes below reserved for designating States which have become party to the PCT after issuance of this sheet:

☐ ..... ☐ ..... ☐ .....

**Precautionary Designation Statement:** In addition to the designations made above, the applicant also makes under Rule 4.9(b) all other designations which would be permitted under the PCT except any designation(s) indicated in the Supplemental Box as being excluded from the scope of this statement. The applicant declares that those additional designations are subject to confirmation and that any designation which is not confirmed before the expiration of 15 months from the priority date is to be regarded as withdrawn by the applicant at the expiration of that time limit. (Confirmation (including fees) must reach the receiving Office within the 15-month time limit.)

**Supplemental Box**
*If the Supplemental Box is not used, this sheet should not be included in the request.*

1. If, in any of the Boxes, except Boxes Nos. VIII(i) to (v) for which a special continuation box is provided, the space is insufficient to furnish all the information: in such case, write "Continuation of Box No. ...." (indicate the number of the Box) and furnish the information in the same manner as required according to the captions of the Box in which the space was insufficient, in particular:

(i) if more than two persons are to be indicated as applicants and/or inventors and no "continuation sheet" is available: in such case, write "Continuation of Box No. III" and indicate for each additional person the same type of information as required in Box No. III. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below;

(ii) if, in Box No. II or in any of the sub-boxes of Box No. III, the indication "the States indicated in the Supplemental Box" is checked: in such case, write "Continuation of Box No. II" or "Continuation of Box No. III" or "Continuation of Boxes No. II and No. III" (as the case may be), indicate the name of the applicant(s) involved and, next to (each) such name, the State(s) (and/or, where applicable, ARIPO, Eurasian, European or OAPI patent) for the purposes of which the named person is applicant;

(iii) if, in Box No. II or in any of the sub-boxes of Box No. III, the inventor or the inventor/applicant is not inventor for the purposes of all designated States or for the purposes of the United States of America: in such case, write "Continuation of Box No. II" or "Continuation of Box No. III" or "Continuation of Boxes No. II and No. III" (as the case may be), indicate the name of the inventor(s) and, next to (each) such name, the State(s) (and/or, where applicable, ARIPO, Eurasian, European or OAPI patent) for the purposes of which the named person is inventor;

(iv) if, in addition to the agent(s) indicated in Box No. IV, there are further agents: in such case, write "Continuation of Box No. IV" and indicate for each further agent the same type of information as required in Box No. IV;

(v) if, in Box No. V, the name of any State (or OAPI) is accompanied by the indication "patent of addition," or "certificate of addition," or if, in Box No. V, the name of the United States of America is accompanied by an indication "continuation" or "continuation-in-part": in such case, write "Continuation of Box No. V" and the name of each State involved (or OAPI), and after the name of each such State (or OAPI), the number of the parent title or parent application and the date of grant of the parent title or filing of the parent application;

(vi) if, in Box No. VI, there are more than five earlier applications whose priority is claimed: in such case, write "Continuation of Box No. VI" and indicate for each additional earlier application the same type of information as required in Box No. VI.

2. If, with regard to the precautionary designation statement contained in Box No. V, the applicant wishes to exclude any State(s) from the scope of that statement: in such case, write "Designation(s) excluded from precautionary designation statement" and indicate the name or two-letter code of each State so excluded.

**Continuation of Box IV:**

SALIWANCHIK, David R.; LLOYD, Jeff; PACE, Doran R.; SANDERS, Jay M.; KYLE, Jean; PARKER, James S.; LADWIG, Glenn P.; EFRON, Margaret H.; and DANIELS, Gwendolyn, L.

THE ABOVE ARE MEMBERS OF THE FIRM OF SALIWANCHIK, LLOYD & SALIWANCHIK, AND HAVE THE SAME ADDRESS AS THE INDIVIDUAL LISTED IN BOX IV.

**Continuation of Box VI.**

This application claims the benefit of US Provisional Patent Application 60/451,213, filed February 28, 2003; US Provisional Patent Application 60/463,962, filed April 18, 2003; and US Provisional Patent Application 60/487,064, filed July 11, 2003. This application is also a Continuation-In-Part of 10/378,956, filed March 3, 2003 which claims the benefit of US Provisional Patent Application 60/360,768, filed March 1, 2002.

<b>Box No. VI PRIORITY CLAIM</b>				
The priority of the following earlier application(s) is hereby claimed:				
Filing date of earlier application (day/month/year)	Number of earlier application	Where earlier application is:		
		national application: country or Member of WTO	regional application:* regional Office	international application: receiving Office
item (1) 28/02/2003 (28 Feb. 2003)	60/451,213	US		
item (2) 11/07/2003 (11 Jul. 2003)	60/487,064	US		
item (3) 18/04/2003 (18 Apr. 2003)	60/463,962	US		
item (4) 03/03/2003 (03 Mar. 2003)	10/378,956	US		
item (5)				

☒ Further priority claims are indicated in the Supplemental Box.

The receiving Office is requested to prepare and transmit to the International Bureau a certified copy of the earlier application(s) (only if the earlier application was filed with the Office which for the purposes of this international application is the receiving Office) identified above as:

☒ all items    ☐ item (1)    ☐ item (2)    ☐ item (3)    ☐ item (4)    ☐ item (5)    ☐ other, see Supplemental Box

\* Where the earlier application is an ARIPO application, indicate at least one country party to the Paris Convention for the Protection of Industrial Property or one Member of the World Trade Organization for which that earlier application was filed (Rule 4.10(b)(ii)): .....

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<b>Box No. VII INTERNATIONAL SEARCHING AUTHORITY</b>		
Choice of International Searching Authority (ISA) (if two or more International Searching Authorities are competent to carry out the international search, indicate the Authority chosen; the two-letter code may be used):		
ISA / EP .....		
Request to use results of earlier search; reference to that search (if an earlier search has been carried out by or requested from the International Searching Authority):		
Date (day/month/year)	Number	Country (or regional Office)

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<b>Box No. VIII DECLARATIONS</b>		
The following declarations are contained in Boxes Nos. VIII (i) to (v) (mark the applicable check-boxes below and indicate in the right column the number of each type of declaration):		Number of declarations
<input type="checkbox"/> Box No. VIII (i)	Declaration as to the identity of the inventor	:
<input type="checkbox"/> Box No. VIII (ii)	Declaration as to the applicant's entitlement, as at the international filing date, to apply for and be granted a patent	:
<input type="checkbox"/> Box No. VIII (iii)	Declaration as to the applicant's entitlement, as at the international filing date, to claim the priority of the earlier application	:
<input type="checkbox"/> Box No. VIII (iv)	Declaration of inventorship (only for the purposes of the designation of the United States of America)	:
<input type="checkbox"/> Box No. VIII (v)	Declaration as to non-prejudicial disclosures or exceptions to lack of novelty	:



Sheet No. 7

Box No. IX CHECK LIST; LANGUAGE OF FILING																																																							
<p>This international application contains:</p> <p>(a) in paper form, the following number of sheets:</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 80%;">request (including declaration sheets)</td> <td style="width: 20%; text-align: right;">7</td> </tr> <tr> <td>description (excluding sequence listings and/or tables related thereto)</td> <td style="text-align: right;">416</td> </tr> <tr> <td>claims</td> <td style="text-align: right;">16</td> </tr> <tr> <td>abstract</td> <td style="text-align: right;">1</td> </tr> <tr> <td>drawings</td> <td style="text-align: right;">46</td> </tr> <tr> <td><b>Sub-total number of sheets</b></td> <td style="text-align: right;"><b>486</b></td> </tr> <tr> <td>sequence listings</td> <td></td> </tr> <tr> <td>tables related thereto</td> <td></td> </tr> <tr> <td colspan="2"><i>(for both, actual number of sheets if filed in paper form, whether or not also filed in computer readable form; see (c) below)</i></td> </tr> <tr> <td><b>Total number of sheets</b></td> <td style="text-align: right;"><b>486</b></td> </tr> </table> <p>(b) <input type="checkbox"/> only in computer readable form (Section 801(a)(i))</p> <p style="margin-left: 20px;">(i) <input type="checkbox"/> sequence listings</p> <p style="margin-left: 20px;">(ii) <input type="checkbox"/> tables related thereto</p> <p>(c) <input type="checkbox"/> also in computer readable form (Section 801(a)(ii))</p> <p style="margin-left: 20px;">(i) <input type="checkbox"/> sequence listings</p> <p style="margin-left: 20px;">(ii) <input type="checkbox"/> tables related thereto</p> <p>Type and number of carriers (diskette, CD-ROM, CD-R or other) on which are contained the</p> <p><input type="checkbox"/> sequence listings</p> <p><input type="checkbox"/> tables related thereto</p> <p><i>(additional copies to be indicated under items 9(ii) and/or 10(ii), in right column)</i></p>	request (including declaration sheets)	7	description (excluding sequence listings and/or tables related thereto)	416	claims	16	abstract	1	drawings	46	<b>Sub-total number of sheets</b>	<b>486</b>	sequence listings		tables related thereto		<i>(for both, actual number of sheets if filed in paper form, whether or not also filed in computer readable form; see (c) below)</i>		<b>Total number of sheets</b>	<b>486</b>	<p>This international application is accompanied by the following item(s) (mark the applicable check-boxes below and indicate in right column the number of each item):</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 80%;">1. <input checked="" type="checkbox"/> fee calculation sheet</td> <td style="width: 20%; text-align: right;">1</td> </tr> <tr> <td>2. <input type="checkbox"/> original separate power of attorney</td> <td></td> </tr> <tr> <td>3. <input type="checkbox"/> original general power of attorney</td> <td></td> </tr> <tr> <td>4. <input type="checkbox"/> copy of general power of attorney; reference number, if any:</td> <td></td> </tr> <tr> <td>5. <input type="checkbox"/> statement explaining lack of signature</td> <td></td> </tr> <tr> <td>6. <input type="checkbox"/> priority document(s) identified in Box No. VI as item(s):</td> <td></td> </tr> <tr> <td>7. <input type="checkbox"/> translation of international application into (language):</td> <td></td> </tr> <tr> <td>8. <input type="checkbox"/> separate indications concerning deposited microorganism or other biological material</td> <td></td> </tr> <tr> <td>9. <input type="checkbox"/> sequence listings in computer readable form (indicate type and number of carriers)</td> <td></td> </tr> <tr> <td style="margin-left: 20px;">(i) <input type="checkbox"/> copy submitted for the purposes of international search under Rule 13ter only (and not as part of the international application):</td> <td></td> </tr> <tr> <td style="margin-left: 20px;">(ii) <input type="checkbox"/> (only where check-box (b)(i) or (c)(i) is marked in left column) additional copies including, where applicable, the copy for the purposes of international search under Rule 13ter</td> <td></td> </tr> <tr> <td style="margin-left: 20px;">(iii) <input type="checkbox"/> together with relevant statement as to the identity of the copy or copies with the sequence listings mentioned in left column</td> <td></td> </tr> <tr> <td>10. <input type="checkbox"/> tables in computer readable form related to sequence listings (indicate type and number of carriers)</td> <td></td> </tr> <tr> <td style="margin-left: 20px;">(i) <input type="checkbox"/> copy submitted for the purposes of international search under Section 802(b-quater) only (and not as part of the international application)</td> <td></td> </tr> <tr> <td style="margin-left: 20px;">(ii) <input type="checkbox"/> (only where check-box (b)(ii) or (c)(ii) is marked in left column) additional copies including, where applicable, the copy for the purposes of international search under Section 802(b-quater)</td> <td></td> </tr> <tr> <td style="margin-left: 20px;">(iii) <input type="checkbox"/> together with relevant statement as to the identity of the copy or copies with the tables mentioned in left column</td> <td></td> </tr> <tr> <td>11. <input checked="" type="checkbox"/> other (specify): Transmittal Letter to the US/RO</td> <td style="text-align: right;">1</td> </tr> </table>	1. <input checked="" type="checkbox"/> fee calculation sheet	1	2. <input type="checkbox"/> original separate power of attorney		3. <input type="checkbox"/> original general power of attorney		4. <input type="checkbox"/> copy of general power of attorney; 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<p>Figure of the drawings which should accompany the abstract: None</p>	<p>Language of filing of the international application: English</p>																																																						
<p><b>Box No. X SIGNATURE OF APPLICANT, AGENT OR COMMON REPRESENTATIVE</b></p> <p><i>Next to each signature, indicate the name of the person signing and the capacity in which the person signs (if such capacity is not obvious from reading the request).</i></p> <div style="display: flex; align-items: center; margin-top: 10px;"> <div style="flex: 1;"> </div> <div style="flex: 1; text-align: center;"> <p>September 4, 2003</p> </div> </div> <div style="display: flex; justify-content: space-between; margin-top: 5px;"> <div>Frank C. Eisenschenk, Ph.D.</div> <div>Date</div> </div>																																																							

For receiving Office use only	
<p>1. Date of actual receipt of the purported international application:</p> <p style="text-align: center; font-weight: bold; font-size: 1.2em;">1002 Rec'd PCT/PTO 04 SEP 2003</p>	<p>2. Drawings:</p> <p><input type="checkbox"/> received:</p> <p><input type="checkbox"/> not received:</p>
<p>3. Corrected date of actual receipt due to later but timely received papers or drawings completing the purported international application:</p>	
<p>4. Date of timely receipt of the required corrections under PCT Article 1(2):</p>	
<p>5. International Searching Authority (if two or more are competent): ISA/EP</p>	<p>6. <input type="checkbox"/> Transmittal of search copy delayed until search fee is paid</p>
For International Bureau use only	
<p>Date of receipt of the record copy by the International Bureau:</p>	

This sheet is not part of and does not count as a sheet of the international application.

**PCT**

**FEE CALCULATION SHEET**

Annex to the Request

For receiving Office use only  
**PCT/US 03/27772**

International Application No.

**04 SEP 2003 (04.09.03)**  
Date stamp of the receiving Office

Applicant's or agent's  
file reference

**TPI-350**

Applicant

**TRANSFORM PHARMACEUTICALS, INC.**

**CALCULATION OF PRESCRIBED FEES**

1. TRANSMITTAL FEE . . . . . **\$240.00 [T]**

**240**

2. SEARCH FEE . . . . . **\$1,119.00 [S]**

**1119**

International search to be carried out by **EP**  
(If two or more International Searching Authorities are competent to carry out the international search, indicate the name of the Authority which is chosen to carry out the international search.)

3. INTERNATIONAL FEE

Basic Fee

Where items (b) and/or (c) of Box No. IX apply, enter Sub-total number of sheets } **486**

Where items (b) and (c) of Box No. IX do not apply, enter Total number of sheets }

**[b1]** first 30 sheets . . . . . **\$476.00 [b1]**

**476**

**[b2]** **456** x **\$12.00** = **\$5,472.00 [b2]**  
number of sheets in excess of 30 fee per sheet

**5472**

**[b3]** additional component (only if sequence listings and/or tables related thereto are filed in computer readable form under Section 801(a)(i), or both in that form and on paper, under Section 801(a)(ii)):

**400** x **0** = **\$0.00 [b3]**  
fee per sheet

Add amounts entered at b1, b2 and b3 and enter total at B . . . . . **\$5,948.00 [B]**

**5948**

Designation Fees

The international application contains **97** designations.

**5** x **104.00** = **\$520.00 [D]**  
number of designation fees payable (maximum 5) amount of designation fee

**520**

Add amounts entered at B and D and enter total at I . . . . . **\$6,468.00 [I]**

**6468**

(Applicants from certain States are entitled to a reduction of 75% of the international fee. Where the applicant is (or all applicants are) so entitled, the total to be entered at I is 25% of the sum of the amounts entered at B and D.)

4. FEE FOR PRIORITY DOCUMENT (if applicable) . . . . . **\$80.00 [P]**

5. TOTAL FEES PAYABLE . . . . . **\$7,907.00**

**7907**

Add amounts entered at T, S, I and P, and enter total in the TOTAL box

**TOTAL**

☐ The designation fees are not paid at this time.

**MODE OF PAYMENT**

☒ authorization to charge deposit account (see below)

☐ postal money order

☐ cash

☐ coupons

☐ cheque

☐ bank draft

☐ revenue stamps

☐ other (specify):

**AUTHORIZATION TO CHARGE (OR CREDIT) DEPOSIT ACCOUNT**

(This mode of payment may not be available at all receiving Offices)

☒ Authorization to charge the total fees indicated above.

☐ (This check-box may be marked only if the conditions for deposit accounts of the receiving Office so permit) Authorization to charge any deficiency or credit any overpayment in the total fees indicated above.

☐ Authorization to charge the fee for priority document.

Receiving Office: RO/ **US**

Deposit Account No.: **19-0065**

Date: **September 4, 2003**

Name: **Frank C. Eisenschenk**

Signature: *Frank C. Eisenschenk*

## Pharmaceutical Co-Crystal Compositions

### INCORPORATION BY REFERENCE

The content of US Patent Application No. 60/451,213 filed on February 28, 2003 is incorporated herein by reference in its entirety.

### FIELD OF THE INVENTION

The present invention relates to co-crystal API-containing compositions, pharmaceutical compositions comprising such APIs, and methods for preparing the same.

### BACKGROUND OF THE INVENTION

Active pharmaceutical ingredients (API or APIs (plural)) in pharmaceutical compositions can be prepared in a variety of different forms. Such APIs can be prepared so as to have a variety of different chemical forms including chemical derivatives or salts. Such APIs can also be prepared to have different physical forms. For example, the APIs may be amorphous, may have different crystalline polymorphs, or may exist in different solvation or hydration states. By varying the form of an API, it is possible to vary the physical properties thereof. For example, crystalline polymorphs typically have different solubilities from one another, such that a more thermodynamically stable polymorph is less soluble than a less thermodynamically stable polymorph. Pharmaceutical polymorphs can also differ in properties such as shelf-life, bioavailability, morphology, vapour pressure, density, colour, and compressibility. Accordingly, variation of the crystalline state of an API is one of many ways in which to modulate the physical properties thereof.

It would be advantageous to have new forms of these APIs that have improved properties, in particular, as oral formulations. Specifically, it is desirable to identify improved forms of APIs that exhibit significantly improved properties including increased aqueous solubility and stability. Further, it is desirable to improve the processability, or preparation of pharmaceutical formulations. For example, needle-like crystal forms or habits of APIs can cause aggregation, even in compositions where the API is mixed with other substances, such that a non-uniform mixture is obtained. It is also desirable to increase the dissolution rate of API-containing pharmaceutical compositions in water, increase the bioavailability of orally-

administered compositions, and provide a more rapid onset to therapeutic effect. It is also desirable to have a form of the API which, when administered to a subject, reaches a peak plasma level faster, has a longer lasting therapeutic plasma concentration, and higher overall exposure when compared to equivalent amounts of the API in its presently-known form.

### SUMMARY OF THE INVENTION

It has now been found that new co-crystalline forms of APIs can be obtained which improve the properties of APIs as compared to such APIs in a non-co-crystalline state (free acid, free base, zwitter ions, salts, etc.).

Accordingly, in a first aspect, the present invention provides a co-crystal pharmaceutical composition comprising an API compound and a co-crystal forming compound, such that the API and co-crystal forming compound are capable of co-crystallizing from a solid or solution phase under crystallization conditions.

Another aspect of the present invention provides a process for the production of a pharmaceutical composition, which process comprises:

(1) providing an API which has at least one functional group selected from ether, thioether, alcohol, thiol, aldehyde, ketone, thioketone, nitrate ester, phosphate ester, thiophosphate ester, ester, thioester, sulfate ester, carboxylic acid, phosphonic acid, phosphinic acid, sulfonic acid, amide, primary amine, secondary amine, ammonia, tertiary amine, sp<sup>2</sup> amine, thiocyanate, cyanamide, oxime, nitrile, diazo, organohalide, nitro, s-heterocyclic ring, thiophene, n-heterocyclic ring, pyrrole, o-heterocyclic ring, furan, epoxide, peroxide, hydroxamic acid, imidazole, and pyridine;

(2) providing a co-crystal forming compound which has at least one functional group selected from ether, thioether, alcohol, thiol, aldehyde, ketone, thioketone, nitrate ester, phosphate ester, thiophosphate ester, ester, thioester, sulfate ester, carboxylic acid, phosphonic acid, phosphinic acid, sulfonic acid, amide, primary amine, secondary amine, ammonia, tertiary amine, sp<sup>2</sup> amine, thiocyanate, cyanamide, oxime, nitrile, diazo, organohalide, nitro, s-heterocyclic ring, thiophene, n-heterocyclic ring, pyrrole, o-heterocyclic ring, furan, epoxide, peroxide, hydroxamic acid, imidazole, and pyridine;

(3) grinding, heating or contacting in solution the API with the co-crystal forming compound under crystallization conditions;

(4) isolating co-crystals formed thereby; and

- (5) incorporating the co-crystals into a pharmaceutical composition.

A further aspect of the present invention provides a process for the production of a pharmaceutical composition, which comprises:

- (1) grinding, heating or contacting in solution an API compound with a co-crystal forming compound, under crystallization conditions, so as to form a solid phase;
- (2) isolating co-crystals comprising the API and the co-crystal forming compound; and
- (3) incorporating the co-crystals into a pharmaceutical composition.

In a further aspect, the present invention provides a process for the production of a pharmaceutical composition, which comprises:

- (1) providing (i) an API or a plurality of different APIs, and (ii) a co-crystal forming compound or a plurality of different co-crystal forming compounds, wherein at least one of the APIs and the co-crystal forming compounds is provided as a plurality thereof;
- (2) isolating co-crystals comprising the API and the co-crystal forming compound; and
- (3) incorporating the co-crystals into a pharmaceutical composition.

#### Solubility Modulation

In a further aspect, the present invention provides a process for modulating the solubility of an API, which process comprises:

- (1) grinding, heating or contacting in solution the API with a co-crystal forming compound under crystallization conditions, so as to form a co-crystal of the API and the co-crystal forming compound; and
- (2) isolating co-crystals comprising the API and the co-crystal forming compound.

#### Dissolution Modulation

In a further aspect, the present invention provides a process for modulating the dissolution of an API, whereby the aqueous dissolution rate or the dissolution rate in

simulated gastric fluid or in simulated intestinal fluid, or in a solvent or plurality of solvents is increased or decreased, which process comprises:

- (1) grinding, heating or contacting in solution the API with a co-crystal forming compound under crystallization conditions, so as to form a co-crystal of the API and the co-crystal forming compound; and
- (2) isolating co-crystals comprising the API and the co-crystal forming compound.

In one embodiment, the dissolution of the API is increased.

#### Bioavailability Modulation

In a further aspect, the present invention provides a process for modulating the bioavailability of an API, whereby the AUC is increased, the time to  $T_{max}$  is reduced, the length of time the concentration of the API is above  $\frac{1}{2} T_{max}$  is increased, or  $C_{max}$  is increased, which process comprises:

- (1) grinding, heating or contacting in solution the API with a co-crystal forming compound under crystallization conditions, so as to form a co-crystal of the API and the co-crystal forming compound; and
- (2) isolating co-crystals comprising the API and the co-crystal forming compound.

#### Dose Response Modulation

In a further aspect the present invention provides a process for improving the linearity of a dose response of an API, which process comprises:

- (1) grinding, heating, or contacting in solution an API with a co-crystal forming compound under crystallization conditions, so as to form a co-crystal of the API and the co-crystal forming compound; and
- (2) isolating co-crystals comprising the API and the co-crystal forming compound.

#### Increased Stability

In a still further aspect the present invention provides a process for improving the stability of a pharmaceutical salt, which process comprises:



- (1) grinding, heating or contacting in solution the pharmaceutical salt with a co-crystal forming compound under crystallization conditions, so as to form a co-crystal of the API and the co-crystal forming compound; and
- (2) isolating co-crystals comprising the API and the co-crystal forming compound.

#### Difficult to Salt or Unsatable Compounds

In a still further aspect the present invention provides a process for making co-crystals of difficult to salt or unsatable APIs, which process comprises:

- (1) grinding, heating or contacting in solution the API with a co-crystal forming compound under crystallization conditions, so as to form a co-crystal of the API and the co-crystal forming compound; and
- (2) isolating co-crystals comprising the API and the co-crystal forming compound.

#### Decreasing Hygroscopicity

In a still further aspect the present invention provides a method for decreasing the hygroscopicity of an API, which method comprises:

- (1) grinding, heating or contacting in solution the API with a co-crystal forming compound under crystallization conditions, so as to form a co-crystal of the API and the co-crystal forming compound; and
- (2) isolating co-crystals comprising the API and the co-crystal forming compound.

#### Crystallizing Amorphous Compounds

In a still further embodiment aspect the present invention provides a process for crystallizing an amorphous compound, which process comprises:

- (1) grinding, heating or contacting in solution the API with a co-crystal forming compound under crystallization conditions, so as to form a co-crystal of the API and the co-crystal forming compound; and
- (2) isolating co-crystals comprising the API and the co-crystal forming compound.

#### Decreasing Form Diversity

In a still further embodiment aspect the present invention provides a process for reducing the form diversity of an API, which process comprises:

- (1) grinding, heating or contacting in solution the API with a co-crystal forming compound under crystallization conditions, so as to form a co-crystal of the API and the co-crystal forming compound; and
- (2) isolating co-crystals comprising the API and the co-crystal forming compound.

#### Morphology Modulation

In a still further embodiment aspect the present invention provides a process for modifying the morphology of an API, which process comprises:

- (1) grinding, heating or contacting in solution the API with a co-crystal forming compound under crystallization conditions, so as to form a co-crystal of the API and the co-crystal forming compound; and
- (2) isolating co-crystals comprising the API and the co-crystal forming compound.

In a further aspect, the present invention provides a co-crystal composition comprising a co-crystal, wherein said co-crystal comprises an API compound and a co-crystal forming compound. In further embodiments the co-crystal has an improved property as compared to the free form (including a free acid, free base, zwitter ion, hydrate, solvate, etc.) or a salt (which includes salt hydrates and solvates). In further embodiments, the improved property is selected from the group consisting of: increased solubility, increased dissolution, increased bioavailability, increased dose response, decreased hygroscopicity, a crystalline form of a normally amorphous compound, a crystalline form of a difficult to salt or unsaltable compound, decreased form diversity, more desired morphology, or other property described herein.

#### BRIEF DESCRIPTION OF THE DRAWINGS

Fig. 1 PXRD pattern for a co-crystal of carbamazepine and saccharin (Form I)

Fig. 2 DSC thermogram for a co-crystal of carbamazepine and saccharin (Form I)

Fig. 3 PXRD pattern for a co-crystal of carbamazepine and nicotinamide (Form I)

- Fig. 4 DSC thermogram for a co-crystal of carbamazepine and nicotinamide (Form I)
- Fig. 5 PXRD pattern for a co-crystal of carbamazepine and trimesic acid (Form I)
- Fig. 6 PXRD pattern for a co-crystal of topiramate and 18-crown-6
- Fig. 7 DSC thermogram for a co-crystal of topiramate and 18-crown-6
- Fig. 8 PXRD pattern for a co-crystal of olanzapine and nicotinamide (Form I)
- Fig. 9 DSC thermogram for a co-crystal of olanzapine and nicotinamide (Form I)
- Fig. 10 PXRD pattern for a co-crystal of celecoxib and 18-crown-6
- Fig. 11 DSC thermogram for a co-crystal of celecoxib and 18-crown-6
- Fig. 12 PXRD pattern for a co-crystal of itraconazole and succinic acid
- Fig. 13 DSC thermogram for a co-crystal of itraconazole and succinic acid
- Fig. 14 PXRD pattern for a co-crystal of itraconazole and fumaric acid
- Fig. 15 DSC thermogram for a co-crystal of itraconazole and fumaric acid
- Fig. 16 PXRD pattern for a co-crystal of itraconazole and tartaric acid
- Fig. 17 DSC thermogram for a co-crystal of itraconazole and tartaric acid
- Fig. 18 PXRD pattern for a co-crystal of itraconazole and malic acid
- Fig. 19 DSC thermogram for a co-crystal of itraconazole and malic acid
- Fig. 20 PXRD pattern for a co-crystal of itraconazoleHCl and tartaric acid
- Fig. 21 DSC thermogram for a co-crystal of itraconazoleHCl and tartaric acid
- Fig. 22 PXRD pattern for a co-crystal of modafinil and malonic acid
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- Fig. 27 Dissolution profile for a co-crystal of celecoxib:nicotinamide vs. celecoxib free acid
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- Fig. 30 PXRD pattern for a co-crystal of olanzapine and nicotinamide (Form II)

Fig. 31 PXRD pattern for a co-crystal of olanzapine and nicotinamide (Form III)

Fig. 32A-D Packing diagrams and crystal structure of olanzapine and nicotinamide (Form III)

Fig. 33 DSC thermogram for a co-crystal of 5-fluorouracil and urea

Fig. 34 TGA thermogram for a co-crystal of 5-fluorouracil and urea

Fig. 35 Raman spectrum for a co-crystal of 5-fluorouracil and urea

Fig. 36 PXRD pattern for a co-crystal of 5-fluorouracil and urea

Fig. 37 PXRD pattern for a co-crystal of hydrochlorothiazide and nicotinic acid

Fig. 38 PXRD pattern for a co-crystal of hydrochlorothiazide and 18-crown-6

Fig. 39 PXRD pattern for a co-crystal of hydrochlorothiazide and piperazine

Fig. 40 DSC thermogram for a co-crystal of modafinil and malonic acid

Fig. 41 TGA thermogram for a co-crystal of modafinil and malonic acid

Fig. 42 Raman spectrum for a co-crystal of modafinil and malonic acid

Fig. 43 PXRD pattern for a co-crystal of modafinil and maleic acid

Fig. 44A-B An acetaminophen 1-D polymeric chain and a co-crystal of acetaminophen and 4,4'-bipyridine, respectively.

Fig. 45A-B Pure phenytoin and a co-crystal with phenytoin and pyridone, respectively.

Fig. 46A-D Pure aspirin and the corresponding crystal structure are shown in Figures 46A and 46B, respectively. Figures 46C and 46D show the supramolecular entity containing the synthon and corresponding co-crystal of aspirin and 4,4'-bipyridine, respectively.

Fig. 47A-D Pure ibuprofen and the corresponding crystal structure are shown in Figures 7A and 7B, respectively. Figures 7C and 7D show the supramolecular entity containing the synthon and corresponding co-crystal of ibuprofen and 4,4'-bipyridine, respectively.

Fig. 48A-D Pure flurbiprofen and the corresponding crystal structure are shown in Figures 48A and 48B, respectively. Figures 5C and 5D show the supramolecular synthon and corresponding co-crystal of flurbiprofen and 4,4'-bipyridine, respectively.

Fig. 49A-B The supramolecular entity containing the synthon and the corresponding co-crystal structure of flurbiprofen and trans-1,2-bis(4-pyridyl)ethylene, respectively.

Fig. 50A-B The crystal structure of pure carbamazepine and the co-crystal structure of carbamazepine and *p*-phthalaldehyde, respectively.

Fig. 51 The co-crystal structure of carbamazepine and nicotinamide (Form II).

Fig. 52 The co-crystal structure of carbamazepine and saccharin (Form II).

Fig. 53A-C The chemical structures of ibuprofen, flurbiprofen, and aspirin, respectively.

Fig. 54A-B The crystal structure of carbamazepine and the co-crystal structure of carbamazepine and 2,6-pyridinedicarboxylic acid, respectively.

Fig. 55A-B The crystal structure of carbamazepine and the co-crystal structure of carbamazepine and 5-nitroisophthalic acid, respectively.

Fig. 56A-B The crystal structure of carbamazepine and the co-crystal structure of carbamazepine and 1,3,5,7-adamantanetetracarboxylic acid, respectively.

Fig. 57A-B The crystal structure of carbamazepine and the co-crystal structure of carbamazepine and benzoquinone, respectively.

Fig. 58A-B The crystal structure of carbamazepine and the co-crystal structure of carbamazepine and trimesic acid (Form II), respectively.

Fig. 59 PXRD diffractogram for a co-crystal of celecoxib and nicotinamide

Fig. 60 DSC thermogram for a co-crystal of celecoxib and nicotinamide

Fig. 61 TGA thermogram for a co-crystal of celecoxib and nicotinamide

Fig. 62 Raman spectrum for a co-crystal of celecoxib and nicotinamide

Fig. 63 Hydrogen-bonding motifs observed in co-crystals

#### DETAILED DESCRIPTION OF THE INVENTION

The term "co-crystal" as used herein means a crystalline material comprised of two or more unique solids at room temperature, each containing distinctive physical characteristics, such as structure, melting point and heats of fusion, with the exception that, if specifically stated, the API may be a liquid at room temperature. The co-crystals of the present invention comprise a co-crystal former H-bonded to an API. The co-crystal former may be H-bonded directly to the API or may be H-bonded to an additional molecule which is bound to the API. The additional molecule may be H-bonded to the API or bound ionically or covalently to the API. The additional

molecule could also be a different API. Solvates of API compounds that do not further comprise a co-crystal forming compound are not co-crystals according to the present invention. The co-crystals may however, include one or more solvate molecules in the crystalline lattice. That is, solvates of co-crystals, or a co-crystal further comprising a solvent or compound that is a liquid at room temperature, is included in the present invention, but crystalline material comprised of only one solid and one or more liquids (at room temperature) are not included in the present invention, with the previously noted exception of specifically stated liquid APIs. The co-crystals may also be a co-crystal between a co-crystal former and a salt of an API, but the API and the co-crystal former of the present invention are constructed or bonded together through hydrogen bonds. Other modes of molecular recognition may also be present including, pi-stacking, guest-host complexation and van der Waals interactions. Of the interactions listed above, hydrogen-bonding is the dominant interaction in the formation of the co-crystal, (and a required interaction according to the present invention) whereby a non-covalent bond is formed between a hydrogen bond donor of one of the moieties and a hydrogen bond acceptor of the other. Hydrogen bonding can result in several different intermolecular configurations. For example, hydrogen bonds can result in the formation of dimers, linear chains, or cyclic structures. These configurations can further include extended (two-dimensional) hydrogen bond networks and isolated triads (Fig. 63). An alternative embodiment provides for a co-crystal wherein the co-crystal former is a second API. In another embodiment, the co-crystal former is not an API. In another embodiment the co-crystal comprises two co-crystal formers. Co-crystals may also be formed where the API is a "guest" molecule in regions of a crystalline lattice formed by the co-crystal forming compound, thus forming an inclusion complex. For purposes of the present invention, the chemical and physical properties of an API in the form of a co-crystal may be compared to a reference compound that is the same API in a different form. The reference compound may be specified as a free form, or more specifically, a free acid, free base, or zwitter ion; a salt, or more specifically for example, an inorganic base addition salt such as sodium, potassium, lithium, calcium, magnesium, ammonium, aluminum salts or organic base addition salts, or an inorganic acid addition salts such as HBr, HCl, sulfuric, nitric, or phosphoric acid addition salts or an organic acid addition salt such as acetic, propionic, pyruvic, malonic, succinic, malic, maleic, fumaric, tartaric, citric, benzoic, methanesulfonic,



ethanesulfonic, stearic or lactic acid addition salt; an anhydrate or hydrate of a free form or salt, or more specifically, for example, a hemihydrate, monohydrate, dihydrate, trihydrate, quadrahydrate, pentahydrate; or a solvate of a free form or salt. The reference compound may also be specified as crystalline or amorphous.

According to the present invention, the co-crystals can include an acid addition salt or base addition salt of an API. Acid addition salts include, but are not limited to, inorganic acids such as hydrochloric acid, hydrobromic acid, sulfuric acid, nitric acid, and phosphoric acid, and organic acids such as acetic acid, propionic acid, hexanoic acid, heptanoic acid, cyclopentanepropionic acid, glycolic acid, pyruvic acid, lactic acid, malonic acid, succinic acid, malic acid, maleic acid, fumaric acid, tartatic acid, citric acid, benzoic acid, o-(4-hydroxybenzoyl)benzoic acid, cinnamic acid, malic acid, methanesulfonic acid, ethanesulfonic acid, 1,2-ethanedisulfonic acid, 2-hydroxyethanesulfonic acid, benzenesulfonic acid, p-chlorobenzenesulfonic acid, 2-naphthalenesulfonic acid, p-toluenesulfonic acid, camphorsulfonic acid, 4-methylbicyclo[2.2.2]oct-2-ene-1-carboxylic acid, glucoheptonic acid, 4,4'-methylenebis(3-hydroxy-2-ene-1-carboxylic acid), 3-phenylpropionic acid, trimethylacetic acid, tertiary butylacetic acid, lauryl sulfuric acid, gluconic acid, glutaric acid, hydroxynaphthoic acid, salicylic acid, stearic acid, and muconic acid. Base addition salts include, but are not limited to, inorganic bases such as sodium, potassium, lithium, ammonium, calcium and magnesium salts, and organic bases such as primary, secondary and tertiary amines (e.g. isopropylamine; trimethyl amine, diethyl amine, tri(iso-propyl) amine, tri(n-propyl) amine, ethanolamine, 2-dimethylaminoethanol, tromethamine, lysine, arginine, histidine, caffeine, procaine, hydrabamine, choline, betaine, ethylenediamine, glucosamine, N-alkylglucamines, theobromine, purines, piperazine, piperidine, morpholine, and N-ethylpiperidine).

The ratio of API to co-crystal former may be stoichiometric or non-stoichiometric according to the present invention. For example, 1:1, 1:1.5 and 1:2 ratios of API:co-crystal former are acceptable.

It has surprisingly been found that when an API and a selected co-crystal forming compound are allowed to form co-crystals, the resulting co-crystals give rise to improved properties of the API, as compared to the API in a free form (including free acids, free bases, and zwitter ions, hydrates, solvates, etc.), or an acid or base salt thereof particularly with respect to: solubility, dissolution, bioavailability, stability, C<sub>max</sub>, T<sub>max</sub>, processability, longer lasting therapeutic plasma concentration,

hygroscopicity, crystallization of amorphous compounds, decrease in form diversity (including polymorphism and crystal habit), change in morphology or crystal habit, etc. For example, a co-crystal form of an API is particularly advantageous where the original API is insoluble or sparingly soluble in water. Additionally, the co-crystal properties conferred upon the API are also useful because the bioavailability of the API can be improved and the plasma concentration and/or serum concentration of the API can be improved. This is particularly advantageous for orally-administrable formulations. Moreover, the dose response of the API can be improved, for example by increasing the maximum attainable response and/or increasing the potency of the API by increasing the biological activity per dosing equivalent.

Accordingly, in a first aspect, the present invention provides a pharmaceutical composition comprising a co-crystal of an API and a co-crystal forming compound, such that the API and co-crystal forming compound are capable of co-crystallizing from a solution phase under crystallization conditions or from the solid-state, for example, through grinding or heating. In another aspect, the API has at least one functional group selected from ether, thioether, alcohol, thiol, aldehyde, ketone, thioketone, nitrate ester, phosphate ester, thiophosphate ester, ester, thioester, sulfate ester, carboxylic acid, phosphonic acid, phosphinic acid, sulfonic acid, amide, primary amine, secondary amine, ammonia, tertiary amine, sp<sup>2</sup> amine, thiocyanate, cyanamide, oxime, nitrile, diazo, organohalide, nitro, s-heterocyclic ring, thiophene, n-heterocyclic ring, pyrrole, o-heterocyclic ring, furan, epoxide, peroxide, hydroxamic acid, imidazole, and pyridine and a co-crystal forming compound which has at least one functional group selected from ether, thioether, alcohol, thiol, aldehyde, ketone, thioketone, nitrate ester, phosphate ester, thiophosphate ester, ester, thioester, sulfate ester, carboxylic acid, phosphonic acid, phosphinic acid, sulfonic acid, amide, primary amine, secondary amine, ammonia, tertiary amine, sp<sup>2</sup> amine, thiocyanate, cyanamide, oxime, nitrile, diazo, organohalide, nitro, s-heterocyclic ring, thiophene, n-heterocyclic ring, pyrrole, o-heterocyclic ring, furan, epoxide, peroxide, hydroxamic acid, imidazole, and pyridine, or a functional group in a Table herein, such that the API and co-crystal forming compound are capable of co-crystallizing from a solution phase under crystallization conditions.

The co-crystals of the present invention are formed where the API and co-crystal forming compound are bonded together through hydrogen bonds. Other non-

4 1 7 113000 42 4 4 4 4

In another embodiment the particular functional group of a co-crystal former interacting with the API is specified (see for example Table I, columns labeled “Functionality” and “Molecular Structure” and the column of Table II labeled “Co-Crystal Former Functional Group”). In a further embodiment the functional group of the API interacting with the co-crystal former functional group is specified (see, for example, Tables II and III).

In a further embodiment, several co-crystal formers can be contained in a single compartment, or kit, for ease in screening an API for potential co-crystal species. The co-crystal kit can comprise 5, 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100, or more of the co-crystal formers in Tables I and II. The co-crystal formers are in solid form and in an array of individual reaction vials such that individual co-crystal formers can be tested with one or more APIs by one or more crystallization methods or multiple co-crystal formers can be easily tested against one or more compounds by one or more crystallization methods. The crystallization methods include, but are not limited to, melt recrystallization, grinding, milling, standing, co-crystal formation from solution by evaporation, thermally driven crystallization from solution, co-crystal

formation from solution by addition of anti-solvent, co-crystal formation from solution by vapor-diffusion, co-crystal formation from solution by drown-out, co-crystal formation from solution by any combination of the above mentioned techniques, co-crystal formation by co-sublimation, co-crystal formation by sublimation using a Knudsen cell apparatus, co-crystal formation by standing the desired components of the co-crystal in the presence of solvent vapor, co-crystal formation by slurry conversion of the desired components of the co-crystal in a solvent or mixtures of solvents, or co-crystal formation by any combination of the above techniques in the presence of additives, nucleates, crystallization enhancers, precipitants, chemical stabilizers, or anti-oxidants. The co-crystallization kits can be used alone or as part of larger crystallization experiments. For example, kits can be constructed as single co-crystal former single well kits, single co-crystal former multi-well kits, multi-co-crystal former single well kits, or multi-co-crystal former multi-well kits.

In a further embodiment, the API is selected from an API of Table IV or elsewhere herein. For pharmaceuticals listed in Table IV, co-crystals can comprise such APIs in free form (i.e. free acid, free base, zwitter ion), salts, solvates, hydrates, or the like. For APIs in Table IV listed as salts, solvates, hydrates, and the like, the API can either be of the form listed in Table IV or its corresponding free form, or of another form that is not listed. Table IV includes the CAS number, chemical name, or a PCT or patent reference (each incorporated herein in their entireties). In further embodiments, the functional group of the particular API interacting with the co-crystal former is specified. A specific functional group of a co-crystal former, a specific co-crystal former, or a specified functional group or a specific co-crystal former interacting with the particular API may also be specified. It is noted that for Table II, the co-crystal former, and optionally the specific functionality, and each of the listed corresponding interacting groups are included as individual species of the present invention. Thus, each specific combination of a co-crystal former and one of the interacting groups in the same row may be specified as a species of the present invention. The same is true for other combinations as discussed in the Tables and elsewhere herein.

In each process according to the invention, there is a need to contact the API with the co-crystal forming compound. This may involve grinding the two solids together or melting one or both components and allowing them to recrystallize. This

may also involve either solubilizing the API and adding the co-crystal forming compound, or solubilizing the co-crystal forming compound and adding the API. Crystallization conditions are applied to the API and co-crystal forming compound. This may entail altering a property of the solution, such as pH or temperature and may require concentration of the solute, usually by removal of the solvent, typically by drying the solution. Solvent removal results in the concentration of both API and co-crystal former increasing over time so as to facilitate crystallization. Once the solid phase comprising any crystals is formed, this may be tested as described herein.

The co-crystals obtained as a result of such process steps may be readily incorporated into a pharmaceutical composition by conventional means. Pharmaceutical compositions in general are discussed in further detail below and may further comprise a pharmaceutically-acceptable diluent, excipient or carrier.

In a further aspect, the present invention provides a process for the production of a pharmaceutical composition, which process comprises:

- (1) providing an API which has at least one functional group selected from ether, thioether, alcohol, thiol, aldehyde, ketone, thioketone, nitrate ester, phosphate ester, thiophosphate ester, ester, thioester, sulfate ester, carboxylic acid, phosphonic acid, phosphinic acid, sulfonic acid, amide, primary amine, secondary amine, ammonia, tertiary amine, sp<sup>2</sup> amine, thiocyanate, cyanamide, oxime, nitrile diazo, organohalide, nitro, s-heterocyclic ring, thiophene, n-heterocyclic ring, pyrrole, o-heterocyclic ring, furan, epoxide, peroxide, hydroxamic acid, imidazole, and pyridine or of Table II or III;
- (2) providing a co-crystal former which has at least one functional group selected from ether, thioether, alcohol, thiol, aldehyde, ketone, thioketone, nitrate ester, phosphate ester, thiophosphate ester, ester, thioester, sulfate ester, carboxylic acid, phosphonic acid, phosphinic acid, sulfonic acid, amide, primary amine, secondary amine, ammonia, tertiary amine, sp<sup>2</sup> amine, thiocyanate, cyanamide, oxime, nitrile, diazo, organohalide, nitro, s-heterocyclic ring, thiophene, n-heterocyclic ring, pyrrole, o-heterocyclic ring, furan, epoxide, peroxide, hydroxamic acid, imidazole, and pyridine or of Table I, II, or III;
- (3) grinding, heating or contacting in solution the API with the co-crystal forming compound under crystallization conditions;
- (4) isolating co-crystals formed thereby; and
- (5) incorporating the co-crystals into a pharmaceutical composition.

In a still further aspect the present invention provides a process for the production of a pharmaceutical composition, which comprises:

- (1) grinding, heating or contacting in solution an API with a co-crystal forming compound, under crystallization conditions, so as to form a solid phase;
- (2) isolating co-crystals comprising the API and the co-crystal forming compound; and
- (3) incorporating the co-crystals into a pharmaceutical composition.

Assaying the solid phase for the presence of co-crystals of the API and the co-crystal forming compound may be carried out by conventional methods known in the art. For example, it is convenient and routine to use powder X-ray diffraction techniques to assess the presence of co-crystals. This may be affected by comparing the spectra of the API, the crystal forming compound and putative co-crystals in order to establish whether or not true co-crystals had been formed. Other techniques, used in an analogous fashion, include differential scanning calorimetry (DSC), thermogravimetric analysis (TGA) and Raman spectroscopy. Single crystal X-ray diffraction is especially useful in identifying co-crystal structures.

In a further aspect, the present invention therefore provides a process of screening for co-crystal compounds, which comprises:

- (1) providing (i) an API compound, and (ii) a co-crystal forming compound; and
- (2) screening for co-crystals of APIs with co-crystal forming compounds by subjecting each combination of API and co-crystal forming compound to a step comprising:
  - (a) grinding, heating or contacting in solution the API with the co-crystal forming compound under crystallization conditions so as to form a solid phase; and
  - (b) isolating co-crystals comprising the API and the co-crystal forming compound.

An alternative embodiment is drawn to a process of screening for co-crystal compounds, which comprises:



(1) providing (i) an API or a plurality of different APIs, and (ii) a co-crystal forming compound or a plurality of different co-crystal forming compounds, wherein at least one of the API and the co-crystal forming compound is provided as a plurality thereof; and

(2) screening for co-crystals of APIs with co-crystal forming compounds by subjecting each combination of API and co-crystal forming compound to a step comprising

- (a) grinding, heating or contacting in solution the API with the co-crystal forming compound under crystallization conditions so as to form a solid phase; and
- (b) isolating co-crystals comprising the API and the co-crystal forming compound.

#### Solubility Modulation

In a further aspect, the present invention provides a process for modulating the solubility of an API, which process comprises:

- (1) grinding, heating or contacting in solution the API with a co-crystal forming compound under crystallization conditions, so as to form a co-crystal of the API and the co-crystal forming compound; and
- (2) isolating co-crystals comprising the API and the co-crystal forming compound;

In one embodiment, the solubility of the API is modulated such that the aqueous solubility is increased. Solubility of APIs may be measured by any conventional means such as chromatography (e.g., HPLC) or spectroscopic determination of the amount of API in a saturated solution of the API, such as UV-spectroscopy, IR-spectroscopy, Raman spectroscopy, quantitative mass spectroscopy, or gas chromatography.

In another aspect of the invention, the API may have low aqueous solubility. Typically, low aqueous solubility in the present application refers to a compound having a solubility in water which is less than or equal to 10 mg/mL, when measured at 37 degrees C, and preferably less than or equal to 5 mg/mL or 1 mg/mL. Low aqueous solubility can further be specifically defined as less than or equal to 900, 800, 700, 600, 500, 400, 300, 200, 150, 100, 90, 80, 70, 60, 50, 40, 30, 20 micrograms/mL, or further 10, 5 or 1 micrograms/mL, or further 900, 800, 700, 600, 500, 400, 300,

200, 150, 100, 90, 80, 70, 60, 50, 40, 30, 20, or 10 ng/mL, or less than 10 ng/mL when measured at 37 degrees C. Aqueous solubility can also be specified as less than 500, 400, 300, 200, 150, 100, 75, 50 or 25 mg/mL. As embodiments of the present invention, solubility can be increased 2, 3, 4, 5, 7, 10, 15, 20, 25, 50, 75, 100, 200, 300, 500, 750, 1000, 5000, or 10,000 times by making a co-crystal of the reference form (e.g., crystalline or amorphous free acid, free base or zwitter ion, hydrate or solvate), or a salt thereof. Further aqueous solubility can be measured in simulated gastric fluid (SGF) or simulated intestinal fluid (SIF) rather than water. SGF (non-diluted) of the present invention is made by combining 1 g/L Triton X-100 and 2 g/L NaCl in water and adjusting the pH with 20 mM HCl to obtain a solution with a final pH=1.7 (SIF is 0.68% monobasic potassium phosphate, 1% pancreatin, and sodium hydroxide where the pH of the final solution is 7.5). The pH of the solvent used may also be specified as 1, 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.7, 1.8, 1.9, 2, 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8, 2.9, 3, 3.5, 4, 4.5, 5, 5.5, 6, 6.5, 7, 7.5, 8, 8.5, 9, 9.5, 10, 10.5, 11, 11.5, or 12, or any pH in between successive values.

Examples of embodiments includes: co-crystal compositions with an aqueous solubility, at 37 degrees C and a pH of 7.0, that is increased at least 5 fold over the reference form, co-crystal compositions with a solubility in SGF that is increased at least 5 fold over the reference form, co-crystal compositions with a solubility in SIF that is increased at least 5 fold over the reference form.

#### Dissolution Modulation

In another aspect of the present invention, the dissolution profile of the API is modulated whereby the aqueous dissolution rate or the dissolution rate in simulated gastric fluid or in simulated intestinal fluid, or in a solvent or plurality of solvents is increased. Dissolution rate is the rate at which API solids dissolve in a dissolution medium. For APIs whose absorption rates are faster than the dissolution rates (e.g., steroids), the rate-limiting step in the absorption process is often the dissolution rate. Because of a limited residence time at the absorption site, APIs that are not dissolved before they are removed from intestinal absorption site are considered useless. Therefore, the rate of dissolution has a major impact on the performance of APIs that are poorly soluble. Because of this factor, the dissolution rate of APIs in solid dosage forms is an important, routine, quality control parameter used in the API manufacturing process.

Dissolution rate =  $K S (C_s - C)$

where K is dissolution rate constant, S is the surface area,  $C_s$  is the apparent solubility, and C is the concentration of API in the dissolution medium.

For rapid API absorption,  $C_s - C$  is approximately equal to  $C_s$ .

The dissolution rate of APIs may be measured by conventional means known in the art.

The increase in the dissolution rate of a co-crystal, as compared to the reference form (e.g., free form or salt), may be specified, such as by 10, 20, 30, 40, 50, 60, 70, 80, 90, or 100%, or by 2, 3, 4, 5, 6, 7, 8, 9, 10, 15, 20, 25, 30, 40, 50, 75, 100, 125, 150, 175, 200, 250, 300, 350, 400, 500, 1000, 10,000, or 100,000 fold greater than the reference form (e.g., free form or salt form) in the same solution. Conditions under which the dissolution rate is measured is the same as discussed above. The increase in dissolution may be further specified by the time the composition remains supersaturated before reaching equilibrium solubility.

Examples of above embodiments include: co-crystal compositions with a dissolution rate in aqueous solution, at 37 degrees C and a pH of 7.0, that is increased at least 5 fold over the reference form, co-crystal compositions with a dissolution rate in SGF that is increased at least 5 fold over the reference form, co-crystal compositions with a dissolution rate in SIF that is increased at least 5 fold over the reference form.

#### Bioavailability Modulation

The methods of the present invention are used to make a pharmaceutical API formulation with greater solubility, dissolution, and bioavailability. Bioavailability can be improved via an increase in AUC, reduced time to  $T_{max}$ , (the time to reach peak blood serum levels), or increased  $C_{max}$ . The present invention can result in higher plasma concentrations of API when compared to the neutral form or salt alone (reference form).

AUC is the area under the plot of plasma concentration of API (not logarithm of the concentration) against time after API administration. The area is conveniently determined by the "trapezoidal rule": The data points are connected by straight line segments, perpendiculars are erected from the abscissa to each data point, and the sum

of the areas of the triangles and trapezoids so constructed is computed. When the last measured concentration ( $C_n$ , at time  $t_n$ ) is not zero, the AUC from  $t_n$  to infinite time is estimated by  $C_n/k_{el}$ .

The AUC is of particular use in estimating bioavailability of APIs, and in estimating total clearance of APIs ( $Cl_T$ ). Following single intravenous doses,  $AUC = D/Cl_T$ , for single compartment systems obeying first-order elimination kinetics, where  $D$  is the dose; alternatively,  $AUC = C_0/k_{el}$ , where  $k_{el}$  is the API elimination rate constant. With routes other than the intravenous, for such systems,  $AUC = F \cdot D/Cl_T$ , where  $F$  is the absolute bioavailability of the API.

Thus, in a further aspect, the present invention provides a process for modulating the bioavailability of an API when administered in its normal and effective dose range as a co-crystal, whereby the AUC is increased, the time to  $T_{max}$  is reduced, or  $C_{max}$  is increased, as compared to a reference form, which process comprises:

- (1) grinding, heating or contacting in solution the API with a co-crystal forming compound under crystallization conditions, so as to form a co-crystal of the API and the co-crystal forming compound; and
- (2) isolating co-crystals comprising the API and the co-crystal forming compound.

Examples of the above embodiments include: co-crystal compositions with a time to  $T_{max}$  that is reduced by at least 10% as compared to the reference form, co-crystal compositions with a time to  $T_{max}$  that is reduced by at least 20% over the reference form, co-crystal compositions with a time to  $T_{max}$  that is reduced by at least 40% over the reference form, co-crystal compositions with a time to  $T_{max}$  that is reduced by at least 50% over the reference form, co-crystal compositions with a  $T_{max}$  that is reduced by at least 60% over the reference form, co-crystal compositions with a  $T_{max}$  that is reduced by at least 70% over the reference form, co-crystal compositions with a  $T_{max}$  that is reduced by at least 80% over the reference form, co-crystal compositions with a  $T_{max}$  that is reduced by at least 90% over the reference form, co-crystal compositions with a  $C_{max}$  that is increased by at least 20% over the reference form, co-crystal compositions with a  $C_{max}$  that is increased by at least 30% over the reference form, co-crystal compositions with a  $C_{max}$  that is increased by at least 40% over the reference form, co-crystal compositions with a  $C_{max}$  that is increased by at least 50% over the reference form, co-crystal compositions with a  $C_{max}$  that is

increased by at least 60% over the reference form, co-crystal compositions with a  $C_{\max}$  that is increased by at least 70% over the reference form, co-crystal compositions with a  $C_{\max}$  that is increased by at least 80% over the reference form, co-crystal compositions with a  $C_{\max}$  that is increased by at least 2 fold, 3 fold, 5 fold, 7.5 fold, 10 fold, 25 fold, 50 fold or 100 fold, co-crystal compositions with an AUC that is increased by at least 10% over the reference form, co-crystal compositions with an AUC that is increased by at least 20% over the reference form, co-crystal compositions with an AUC that is increased by at least 30% over the reference form, co-crystal compositions with an AUC that is increased by at least 40% over the reference form, co-crystal compositions with an AUC that is increased by at least 50% over the reference form, co-crystal compositions with an AUC that is increased by at least 60% over the reference form, co-crystal compositions with an AUC that is increased by at least 70% over the reference form, co-crystal compositions with an AUC that is increased by at least 80% over the reference form or co-crystal compositions with an AUC that is increased by at least 2 fold, 3 fold, 4 fold, 5 fold, 6 fold, 7 fold, 8 fold, 9 fold, or 10 fold. Other examples include wherein the reference form is crystalline, wherein the reference form is amorphous, wherein the reference form is an anhydrous crystalline sodium salt, or wherein the reference form is an anhydrous crystalline HCl salt.

#### Dose Response Modulation

In a further aspect the present invention provides a process for improving the dose response of an API, which process comprises:

- (1) contacting in solution an API with a co-crystal forming compound under crystallization conditions, so as to form a co-crystal of the API and the co-crystal forming compound; and
- (2) isolating co-crystals comprising the API and the co-crystal forming compound.

Dose response is the quantitative relationship between the magnitude of response and the dose inducing the response and may be measured by conventional means known in the art. The curve relating effect (as the dependent variable) to dose (as the independent variable) for an API-cell system is the "dose-response curve". Typically, the dose-response curve is the measured response to an API plotted against

the dose of the API (mg/kg) given. The dose response curve can also be a curve of AUC against the dose of the API given.

In an embodiment of the present invention, a co-crystal of the present invention has an increased dose response curve or a more linear dose response curve than the corresponding reference compound.

#### Increased Stability

In a still further aspect the present invention provides a process for improving the stability of an API (as compared to a reference form such as its free form or a salt thereof), which process comprises:

- (1) grinding, heating or contacting in solution the pharmaceutical salt with a co-crystal forming compound under crystallization conditions, so as to form a co-crystal of the API and the co-crystal forming compound; and
- (2) isolating co-crystals comprising the API and the co-crystal forming compound.

In a preferred embodiment, the compositions of the present invention, including the API or active pharmaceutical ingredient (API) and formulations comprising the API, are suitably stable for pharmaceutical use. Preferably, the API or formulations thereof of the present invention are stable such that when stored at 30 degrees C for 2 years, less than 0.2 % of any one degradant is formed. The term degradant refers herein to product(s) of a single type of chemical reaction. For example, if a hydrolysis event occurs that cleaves a molecule into two products, for the purpose of the present invention, it would be considered a single degradant. More preferably, when stored at 40 degrees C for 2 years, less than 0.2 % of any one degradant is formed. Alternatively, when stored at 30 degrees C for 3 months, less than 0.2% or 0.15 %, or 0.1 % of any one degradant is formed, or when stored at 40 degrees C for 3 months, less than 0.2 % or 0.15 %, or 0.1 % of any one degradant is formed. Further alternatively, when stored at 60 degrees C for 4 weeks, less than 0.2 % or 0.15 %, or 0.1 % of any one degradant is formed. The relative humidity (RH) may be specified as ambient (RH), 75 % (RH), or as any single integer between 1 to 99 %.

#### Difficult to Salt or Unsatable Compounds

In a still further aspect the present invention provides a process for making co-crystals of unsatable or difficult to salt APIs which process comprises:

- (1) grinding, heating or contacting in solution an API with a co-crystal forming compound under crystallization conditions, so as to form a co-crystal of the API and the co-crystal forming compound; and
- (2) isolating co-crystals comprising the API and the co-crystal forming compound.

Difficult to salt compounds include bases with a  $pK_a < 3$  or acids with a  $pK_a > 10$ . Zwitter ions are also difficult to salt or unsatable compounds according to the present invention.

#### Decreasing Hygroscopicity

In a still further aspect, the present invention provides a method for decreasing the hygroscopicity of an API, which method comprises:

- (1) grinding, heating or contacting in solution the API with a co-crystal forming compound under crystallization conditions, so as to form a co-crystal of the API and the co-crystal forming compound; and
- (2) isolating co-crystals comprising the API and the co-crystal forming compound.

An aspect of the present invention provides a pharmaceutical composition comprising a co-crystal of an API that is less hygroscopic than amorphous or crystalline, free form or salt (including metal salts such as sodium, potassium, lithium, calcium, magnesium) or another reference compound. Hygroscopicity can be assessed by dynamic vapor sorption analysis, in which 5-50 mg of the compound is suspended from a Cahn microbalance. The compound being analyzed should be placed in a non-hygroscopic pan and its weight should be measured relative to an empty pan composed of identical material and having nearly identical size, shape, and weight. Ideally, platinum pans should be used. The pans should be suspended in a chamber through which a gas, such as air or nitrogen, having a controlled and known percent relative humidity (%RH) is flowed until equilibrium criteria are met. Typical equilibrium criteria include weight changes of less than 0.01 % over 3 minutes at

constant humidity and temperature. The relative humidity should be measured for samples dried under dry nitrogen to constant weight (<0.01 % change in 3 minutes) at 40 degrees C unless doing so would de-solvate or otherwise convert the material to an amorphous compound. In one aspect, the hygroscopicity of a dried compound can be assessed by increasing the RH from 5 to 95 % in increments of 5 % RH and then decreasing the RH from 95 to 5 % in 5 % increments to generate a moisture sorption isotherm. The sample weight should be allowed to equilibrate between each change in % RH. If the compound deliquesces or becomes amorphous above 75 % RH, but below 95 % RH, the experiment should be repeated with a fresh sample and the relative humidity range for the cycling should be narrowed to 5-75 % RH or 10-75 % RH, instead of 5-95 %RH. If the sample cannot be dried prior to testing due to lack of form stability, than the sample should be studied using two complete humidity cycles of either 10-75 % RH or 5-95 % RH, and the results of the second cycle should be used if there is significant weight loss at the end of the first cycle.

Hygroscopicity can be defined using various parameters. For purposes of the present invention, a non-hygroscopic molecule should not gain or lose more than 1.0 %, or more preferably, 0.5 % weight at 25 degrees C when cycled between 10 and 75 % RH (relative humidity at 25 degrees C). The non-hygroscopic molecule more preferably should not gain or lose more than 1.0 %, or more preferably, 0.5 % weight when cycled between 5 and 95 % RH at 25 degrees C, or more than 0.25 % of its weight between 10 and 75 % RH. Most preferably, a non-hygroscopic molecule will not gain or lose more than 0.25 % of its weight when cycled between 5 and 95 % RH.

Alternatively, for purposes of the present invention, hygroscopicity can be defined using the parameters of Callaghan et al., "Equilibrium moisture content of pharmaceutical excipients", in *Api Dev. Ind. Pharm.*, Vol. 8, pp. 335-369 (1982). Callaghan et al. classified the degree of hygroscopicity into four classes.

Class 1: Non-hygroscopic	Essentially no moisture increases occur at relative humidities below 90 %.
Class 2: Slightly hygroscopic	Essentially no moisture increases occur at relative humidities below 80%.



**Class 3: Moderately hygroscopic**      Moisture content does not increase more than 5 % after storage for 1 week at relative humidities below 60 %.

**Class 4: Very hygroscopic**      Moisture content increase may occur at relative humidities as low as 40 to 50 %.

Alternatively, for purposes of the present invention, hygroscopicity can be defined using the parameters of the European Pharmacopoeia Technical Guide (1999, p. 86) which has defined hygroscopicity, based on the static method, after storage at 25 degrees C for 24 hours at 80 % RH:

**Slightly hygroscopic:** Increase in mass is less than 2 percent m/m and equal to or greater than 0.2 percent m/m.

**Hygroscopic:** Increase in mass is less than 15 percent m/m and equal to or greater than 0.2 percent m/m.

**Very Hygroscopic:** Increase in mass is equal to or greater than 15 percent m/m.

**Deliquescent:** Sufficient water is absorbed to form a liquid.

Co-crystals of the present invention can be set forth as being in Class 1, Class 2, or Class 3, or as being Slightly hygroscopic, Hygroscopic, or Very Hygroscopic. Co-crystals of the present invention can also be set forth based on their ability to reduce hygroscopicity. Thus, preferred co-crystals of the present invention are less hygroscopic than a reference compound. The reference compound can be specified as the API in free form (free acid, free base, hydrate, solvate, etc.) or salt (e.g., especially metal salts such as sodium, potassium, lithium, calcium, or magnesium). Further included in the present invention are co-crystals that do not gain or lose more than 1.0 % weight at 25 degrees C when cycled between 10 and 75 % RH, wherein the reference compound gains or loses more than 1.0 % weight under the same conditions. Further included in the present invention are co-crystals that do not gain

or lose more than 0.5 % weight at 25 degrees C when cycled between 10 and 75 % RH, wherein the reference compound gains or loses more than 0.5 % or more than 1.0 % weight under the same conditions. Further included in the present invention are co-crystals that do not gain or lose more than 1.0 % weight at 25 degrees C when cycled between 5 and 95 % RH, wherein the reference compound gains or loses more than 1.0 % weight under the same conditions. Further included in the present invention are co-crystals that do not gain or lose more than 0.5 % weight at 25 degrees C when cycled between 5 and 95 % RH, wherein the reference compound gains or loses more than 0.5 % or more than 1.0 % weight under the same conditions. Further included in the present invention are co-crystals that do not gain or lose more than 0.25 % weight at 25 degrees C when cycled between 5 and 95 % RH, wherein the reference compound gains or loses more than 0.5 % or more than 1.0 % weight under the same conditions.

Further included in the present invention are co-crystals that have a hygroscopicity (according to Callaghan et al.) that is at least one class lower than the reference compound or at least two classes lower than the reference compound. Included are a Class 1 co-crystal of a Class 2 reference compound, a Class 2 co-crystal of a Class 3 reference compound, a Class 3 co-crystal of a Class 4 reference compound, a Class 1 co-crystal of a Class 3 reference compound, a Class 1 co-crystal of a Class 4 reference compound, or a Class 2 co-crystal of a Class 4 reference compound.

Further included in the present invention are co-crystals that have a hygroscopicity (according to the European Pharmacopoeia Technical Guide) that is at least one class lower than the reference compound or at least two classes lower than the reference compound. Non-limiting examples include; a slightly hygroscopic co-crystal of a hygroscopic reference compound, a hygroscopic co-crystal of a very hygroscopic reference compound, a very hygroscopic co-crystal of a deliquescent reference compound, a slightly hygroscopic co-crystal of a very hygroscopic reference compound, a slightly hygroscopic co-crystal of a deliquescent reference compound, and a hygroscopic co-crystal of a deliquescent reference compound.

#### Crystallizing Amorphous Compounds

In a further aspect, the present invention provides a process for crystallizing an amorphous compound, which process comprises:

- (1) grinding, heating or contacting in solution the API with a co-crystal forming compound under crystallization conditions, so as to form a co-crystal of the API and the co-crystal forming compound; and
- (2) isolating co-crystals comprising the API and the co-crystal forming compound.

An amorphous compound includes compounds that do not crystallize using routine methods in the art.

#### Decreasing Form Diversity

In a still further embodiment aspect the present invention provides a process for reducing the form diversity of an API, which process comprises:

- (1) grinding, heating or contacting in solution the API with a co-crystal forming compound under crystallization conditions, so as to form a co-crystal of the API and the co-crystal forming compound; and
- (2) isolating co-crystals comprising the API and the co-crystal forming compound.

For purposes of the present invention, the number of forms of a co-crystal is compared to the number of forms of a reference compound (e.g. the free form or a salt of the API) that can be made using routine methods in the art.

#### Morphology Modulation

In a still further aspect the present invention provides a process for modifying the morphology of an API, which process comprises:

- (1) grinding, heating or contacting in solution the API with a co-crystal forming compound under crystallization conditions, so as to form a co-crystal of the API and the co-crystal forming compound; and
- (2) isolating co-crystals comprising the API and the co-crystal forming compound.

In an embodiment the co-crystal comprises or consists of a co-crystal former and a pharmaceutical wherein the interaction between the two, e.g., H-bonding, occurs between a functional group of Table III of an API with a corresponding

interacting group of Table III. In a further embodiment, the co-crystal comprises a co-crystal former of Table I or II and an API with a corresponding interacting group of Table III. In a further embodiment the co-crystal comprises an API from Table IV and a co-crystal former with a functional group of Table III. In a further embodiment, the co-crystal is from Table I or II. In an aspect of the invention, only co-crystals having an H-bond acceptor on the first molecule and an H-bond donor on the second molecule, where the first and second molecules are either co-crystal former and API respectively or API and co-crystal former respectively, are included in the present invention. Table IV includes the CAS number, chemical name or a PCT or patent reference (each incorporated herein in their entireties). Thus, whether a particular API contains an H-bond donor, acceptor or both is readily apparent.

In another embodiment, the co-crystal former and API each have only one H-bond donor/acceptor. In another aspect, the molecular weight of the API is less than 2000, 1500, 1000, 750, 500, 350, 200, or 150 Daltons. In another embodiment, the molecular weight of the API is between 100-200, 200-300, 300-400, 400-500, 500-600, 600-700, 700-800, 800-900, 900-1000, 1000-1200, 1200-1400, 1400-1600, 1600-1800, or 1800-2000. APIs with the above molecular weights may also be specifically excluded from the present invention.

In another embodiment, peptides, proteins, nucleic acids or other biological APIs are excluded from the present invention. In another embodiment, all non-pharmaceutically acceptable co-crystal formers are excluded from the present invention. In another embodiment, organometallic APIs are excluded from the present invention. In another embodiment, a co-crystal former comprising any one or more of the functional groups of Table III may be specifically excluded from the present invention. In another embodiment, any one or more of the co-crystal formers of Table I or II may be specifically excluded from the present invention. Any APIs currently known in the art may also be specifically excluded from the present invention. For example, carbanazepine, itraconazole, nabumetone, fluoxetine, acetaminophen and theophylline can each be specifically excluded from the present invention. In another embodiment, the API is not a salt, is not a non-metal salt, or is not a metal salt, e.g., sodium, potassium, lithium, calcium or magnesium. In another embodiment, the API is a salt, is a non-metal salt, or is a metal salt, e.g., sodium, potassium, lithium, calcium, magnesium. In one embodiment, the API does not contain a halogen. In one embodiment, the API does contain a halogen.

In another embodiment, any one or more of the APIs of Table IV may be specifically excluded from the present invention. Any APIs currently known in the art may also be specifically excluded from the present invention. For example, nabumetone:2,3-naphthalenediol, fluoxetine HCl:benzoic acid, fluoxetine HCl:succinic acid, acetaminophen:piperazine, acetaminophen:theophylline, theophylline:salicylic acid, theophylline:p-hydroxybenzoic acid, theophylline:sorbic acid, theophylline:1-hydroxy-2-naphthoic acid, theophylline:glycolic acid, theophylline:2,5-dihydroxybenzoic acid, theophylline:chloroacetic acid, bis(diphenylhydantoin):9-ethyladenine acetylacetone solvate, bis(diphenylhydantoin):9-ethyladenine 2,4-pentanedione solvate, 5,5-diphenylbarbituric acid:9-ethyladenine, bis(diphenylhydantoin):9-ethyladenine, 4-aminobenzoic acid:4-aminobenzonitrile, sulfadimidine:salicylic acid, 8-hydroxyquinolinium 4-nitrobenzoate:4-nitrobenzoic acid, sulfaproxyline:caffeine, retro-inverso-isopropyl (2R,3S)-4-cyclohexyl-2-hydroxy-3-(N-((2R)-2-morpholinocarbonylmethyl-3-(1-naphthyl)propionyl)-L-histidylamino)butyrate:cinnamic acid monohydrate, benzoic acid:isonicotinamide, 3-(2-N',N'-(dimethylhydrazino)-4-thiazolylmethylthio)-N''-sulfamoylpropionamide:maleic acid, diglycine hydrochloride ( $C_2H_5NO_2:C_2H_6NO_2^+Cl^-$ ), octadecanoic acid:3-pyridinecarboxamide, cis-N-(3-methyl-1-(2-(1,2,3,4-tetrahydro)naphthyl)-piperidin-4-yl)-N-phenylpropanamide hydrochloride:oxalic acid, trans-N-(3-methyl-1-(2-(1,2,3,4-tetrahydro)naphthyl)-piperidin-4-ylum)-N-phenylpropanamide oxalate:oxalic acid dihydrate, bis(1-(3-((2-isopropoxyphenyl)-1-piperazinyl)methyl)benzoyl)piperidine) succinate:succinic acid, bis(p-cyanophenyl)imidazolymethane:succinic acid, cis-1-((4-(1-imidazolymethyl)cyclohexyl)methyl)imidazole:succinic acid, (+)-2-(5,6-dimethoxy-1,2,3,4-tetrahydro-1-naphthyl)imidazoline:(+)-dibenzoyl-D-tartaric acid, raclopride:tartaric acid, 2,6-diamino-9-ethylpurine:5,5-diethylbarbituric acid, 5,5-diethylbarbituric acid:bis(2-aminopyridine), 5,5-diethylbarbituric acid:acetamide, 5,5-diethylbarbituric acid:KI<sub>3</sub>, 5,5-diethylbarbituric acid:urea, bis(barbital):hexamethylphosphoramide, 5,5-diethylbarbituric acid:imidazole, barbital:1-methylimidazole, 5,5-diethylbarbituric acid:N-methyl-2-pyridone, 2,4-diamino-5-(3,4,5-trimethoxybenzyl)-pyrimidine:5,5-diethylbarbituric acid, bis(barbital):caffeine, bis(barbital):1-methylimidazole, bis(beta-cyclodextrin):bis(barbital) hydrate, tetrakis(beta-cyclodextrin):tetrakis(barbital), 9-

ethyladenine:5,5-diethylbarbituric acid, barbital:N'-(p-cyanophenyl)-N-(p-iodophenyl)melamine, barbital:2-amino-4-(m-bromophenylamino)-6-chloro-1,3,5-triazine, 5,5-diethylbarbituric acid:N,N'-diphenylmelamine, 5,5-diethylbarbituric acid:N,N'-bis(p-chlorophenyl)melamine, N,N'-bis(p-bromophenyl)melamine:5,5-diethylbarbituric acid, 5,5-diethylbarbituric acid:N,N'-bis(p-iodophenyl)melamine, 5,5-diethylbarbituric acid:N,N'-bis(p-tolyl)melamine, 5,5-diethylbarbituric acid:N,N'-bis(m-tolyl)melamine, 5,5-diethylbarbituric acid:N,N'-bis(m-chlorophenyl)melamine, N,N'-Bis(m-methylphenyl)melamine:barbital, N,N'-bis(m-chlorophenyl)melamine:barbital tetrahydrofuran solvate, 5,5-diethylbarbituric acid:N,N'-bis(t-butyl)melamine, 5,5-diethylbarbituric acid:N,N'-di(t-butyl)melamine, 6,6'-diquinolyl ether:5,5-diethylbarbituric acid, 5-t-butyl-2,4,6-triaminopyrimidine:diethylbarbituric acid, N,N'-bis(4-carboxymethylphenyl)melamine:barbital ethanol solvate, N,N'-bis(4-t-butylphenyl)melamine:barbital, tris(5,17-N,N'-bis(4-amino-6-(butylamino)-1,3,5-triazin-2-yl)diamino-11,23-dinitro-25,26,27,28-tetrapropoxycalix(4)arene):hexakis(diethylbarbituric acid) toluene solvate, N,N'-bis(m-fluorophenyl)melamine:barbital, N,N'-bis(m-bromophenyl)melamine:barbital acetone solvate, N,N'-bis(m-iodophenyl)melamine:barbital acetonitrile solvate, N,N'-bis(m-trifluoromethylphenyl)melamine:barbital acetonitrile solvate, aminopyrine:barbital, N,N'-bis(4-fluorophenyl)melamine:barbital, N,N'-bis(4-trifluoromethylphenyl)melamine:barbital, 2,4-diamino-5-(3,4,5-trimethoxybenzyl)pyrimidine:barbital, hydroxybutyrate:hydroxyvalerate, 2-aminopyrimidine:succinic acid, 1,3-bis(((6-methylpyrid-2-yl)amino)carbonyl)benzene:glutaric acid, 5-t-butyl-2,4,6-triaminopyrimidine:diethylbarbituric acid, bis(dithiobiuret-S,S')nickel(II):diuracil, platinum 3,3'-dihydroxymethyl-2,2'-bipyridine dichloride:AgF<sub>3</sub>CSO<sub>3</sub>, 4,4'-bipyridyl:isophthalic acid, 4,4'-bipyridyl:1,4-naphthalenedicarboxylic acid, 4,4'-bipyridyl:1,3,5-cyclohexane-tricarboxylic acid, 4,4'-bipyridyl:tricarballic acid, urotropin:azelaic acid, insulin:C8-HI (octanoyl-N<sup>c</sup>-LysB29-human insulin), isonicotinamide:cinnamic acid, isonicotinamide:3-hydroxybenzoic acid, isonicotinamide:3-N,N-dimethylaminobenzoic acid, isonicotinamide:3,5-bis(trifluoromethyl)-benzoic acid, isonicotinamide:d,l-mandelic acid, isonicotinamide:chloroacetic acid, isonicotinamide:fumaric acid monoethyl ester, isonicotinamide:12-bromododecanoic acid, isonicotinamide:fumaric acid,

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acid:isonicotinamide, mazapertine:succinate, betaine:dichloronitrophenol, betainepyridine:dichloronitrophenol, betainepyridine:pentachlorophenol, 4-{2-[1-(2-hydroxyethyl)-4-pyridylidene]-ethylidene}-cyclo-hexa-2,5-dien-1-one:methyl 2,4-dihydroxybenzoate, 4-{2-[1-(2-hydroxyethyl)-4-pyridylidene]-ethylidene}-cyclo-hexa-2,5-dien-1-one:2,4-dihydroxypropiophenone, 4-{2-[1-(2-hydroxyethyl)-4-pyridylidene]-ethylidene}-cyclo-hexa-2,5-dien-1-one:2,4-dihydroxyacetophenone, squaric acid:4,4'-dipyridylacetylene, squaric acid:1,2-bis(4-pyridyl)ethylene, chloranilic acid:1,4-bis[(4-pyridyl)ethynyl]benzene, 4,4'-bipyridine:phthalic acid, 4,4'-dipyridylacetylene:phthalic acid, bis(pentamethylcyclopentadienyl)iron:bromanilic acid, bis(pentamethylcyclopentadienyl)iron:chloranilic acid, bis(pentamethylcyclopentadienyl)iron:cyananilic acid, pyrazinotetrathiafulvalene:chloranilic acid, phenol:pentafluorophenol, co-crystals of itraconazole, and co-crystals of topiramate are specifically excluded from the present invention.

Excipients employed in pharmaceutical compositions of the present invention can be solids, semi-solids, liquids or combinations thereof. Preferably, excipients are solids. Compositions of the invention containing excipients can be prepared by any known technique of pharmacy that comprises admixing an excipient with an API or therapeutic agent. A pharmaceutical composition of the invention contains a desired amount of API per dose unit and, if intended for oral administration, can be in the form, for example, of a tablet, a caplet, a pill, a hard or soft capsule, a lozenge, a cachet, a dispensable powder, granules, a suspension, an elixir, a dispersion, a liquid, or any other form reasonably adapted for such administration. If intended for parenteral administration, it can be in the form, for example, of a suspension or transdermal patch. If intended for rectal administration, it can be in the form, for example, of a suppository. Presently preferred are oral dosage forms that are discrete dose units each containing a predetermined amount of the API, such as tablets or capsules.

In another embodiment, APIs with an inappropriate pH for transdermal patches can be co-crystallized with an appropriate co-crystal former, thereby adjusting its pH to an appropriate level for use as a transdermal patch. In another embodiment, an APIs pH level can be optimized for use in a transdermal patch via co-crystallization with an appropriate co-crystal former.



Non-limiting examples follow of excipients that can be used to prepare pharmaceutical compositions of the invention.

Pharmaceutical compositions of the invention optionally comprise one or more pharmaceutically acceptable carriers or diluents as excipients. Suitable carriers or diluents illustratively include, but are not limited to, either individually or in combination, lactose, including anhydrous lactose and lactose monohydrate; starches, including directly compressible starch and hydrolyzed starches (e.g., Celutab<sup>TM</sup> and Emdex<sup>TM</sup>); mannitol; sorbitol; xylitol; dextrose (e.g., Cerelease<sup>TM</sup> 2000) and dextrose monohydrate; dibasic calcium phosphate dihydrate; sucrose-based diluents; confectioner's sugar; monobasic calcium sulfate monohydrate; calcium sulfate dihydrate; granular calcium lactate trihydrate; dextrates; inositol; hydrolyzed cereal solids; amylose; celluloses including microcrystalline cellulose, food grade sources of alpha- and amorphous cellulose (e.g., RexcelJ), powdered cellulose, hydroxypropylcellulose (HPC) and hydroxypropylmethylcellulose (HPMC); calcium carbonate; glycine; bentonite; block co-polymers; polyvinylpyrrolidone; and the like. Such carriers or diluents, if present, constitute in total about 5% to about 99%, preferably about 10% to about 85%, and more preferably about 20% to about 80%, of the total weight of the composition. The carrier, carriers, diluent, or diluents selected preferably exhibit suitable flow properties and, where tablets are desired, compressibility.

Lactose, mannitol, dibasic sodium phosphate, and microcrystalline cellulose (particularly Avicel PH microcrystalline cellulose such as Avicel PH 101), either individually or in combination, are preferred diluents. These diluents are chemically compatible with many co-crystals described herein. The use of extragranular microcrystalline cellulose (that is, microcrystalline cellulose added to a granulated composition) can be used to improve hardness (for tablets) and/or disintegration time. Lactose, especially lactose monohydrate, is particularly preferred. Lactose typically provides compositions having suitable release rates of co-crystals, stability, pre-compression flowability, and/or drying properties at a relatively low diluent cost. It provides a high density substrate that aids densification during granulation (where wet granulation is employed) and therefore improves blend flow properties and tablet properties.

Pharmaceutical compositions of the invention optionally comprise one or more pharmaceutically acceptable disintegrants as excipients, particularly for tablet

formulations. Suitable disintegrants include, but are not limited to, either individually or in combination, starches, including sodium starch glycolate (e.g., Explotab<sup>TM</sup> of PenWest) and pregelatinized corn starches (e.g., National<sup>TM</sup> 1551 of National Starch and Chemical Company, National<sup>TM</sup> 1550, and Colorcon<sup>TM</sup> 1500), clays (e.g., Veegum<sup>TM</sup> HV of R.T. Vanderbilt), celluloses such as purified cellulose, microcrystalline cellulose, methylcellulose, carboxymethylcellulose and sodium carboxymethylcellulose, croscarmellose sodium (e.g., Ac-Di-Sol<sup>TM</sup> of FMC), alginates, crospovidone, and gums such as agar, guar, locust bean, karaya, pectin and tragacanth gums.

Disintegrants may be added at any suitable step during the preparation of the composition, particularly prior to granulation or during a lubrication step prior to compression. Such disintegrants, if present, constitute in total about 0.2% to about 30%, preferably about 0.2% to about 10%, and more preferably about 0.2% to about 5%, of the total weight of the composition.

Croscarmellose sodium is a preferred disintegrant for tablet or capsule disintegration, and, if present, preferably constitutes about 0.2% to about 10%, more preferably about 0.2% to about 7%, and still more preferably about 0.2% to about 5%, of the total weight of the composition. Croscarmellose sodium confers superior intragranular disintegration capabilities to granulated pharmaceutical compositions of the present invention.

Pharmaceutical compositions of the invention optionally comprise one or more pharmaceutically acceptable binding agents or adhesives as excipients, particularly for tablet formulations. Such binding agents and adhesives preferably impart sufficient cohesion to the powder being tableted to allow for normal processing operations such as sizing, lubrication, compression and packaging, but still allow the tablet to disintegrate and the composition to be absorbed upon ingestion. Such binding agents may also prevent or inhibit crystallization or recrystallization of a co-crystal of the present invention once the salt has been dissolved in a solution. Suitable binding agents and adhesives include, but are not limited to, either individually or in combination, acacia; tragacanth; sucrose; gelatin; glucose; starches such as, but not limited to, pregelatinized starches (e.g., National<sup>TM</sup> 1511 and National<sup>TM</sup> 1500); celluloses such as, but not limited to, methylcellulose and carmellose sodium (e.g., Tylose<sup>TM</sup>); alginic acid and salts of alginic acid; magnesium aluminum silicate; PEG; guar gum; polysaccharide acids; bentonites; povidone, for example povidone K-15,

K-30 and K-29/32; polymethacrylates; HPMC; hydroxypropylcellulose (e.g., Klucel<sup>TM</sup> of Aqualon); and ethylcellulose (e.g., Ethocel<sup>TM</sup> of the Dow Chemical Company). Such binding agents and/or adhesives, if present, constitute in total about 0.5% to about 25%, preferably about 0.75% to about 15%, and more preferably about 1% to about 10%, of the total weight of the pharmaceutical composition.

Many of the binding agents are polymers comprising amide, ester, ether, alcohol or ketone groups and, as such, are preferably included in pharmaceutical compositions of the present invention. Polyvinylpyrrolidones such as povidone K-30 are especially preferred. Polymeric binding agents can have varying molecular weight, degrees of crosslinking, and grades of polymer. Polymeric binding agents can also be copolymers, such as block co-polymers that contain mixtures of ethylene oxide and propylene oxide units. Variation in these units' ratios in a given polymer affects properties and performance. Examples of block co-polymers with varying compositions of block units are Poloxamer 188 and Poloxamer 237 (BASF Corporation).

Pharmaceutical compositions of the invention optionally comprise one or more pharmaceutically acceptable wetting agents as excipients. Such wetting agents are preferably selected to maintain the co-crystal in close association with water, a condition that is believed to improve bioavailability of the composition. Such wetting agents can also be useful in solubilizing or increasing the solubility of co-crystals.

Non-limiting examples of surfactants that can be used as wetting agents in pharmaceutical compositions of the invention include quaternary ammonium compounds, for example benzalkonium chloride, benzethonium chloride and cetylpyridinium chloride, dioctyl sodium sulfosuccinate, polyoxyethylene alkylphenyl ethers, for example nonoxynol 9, nonoxynol 10, and degrees Ctoxynol 9, poloxamers (polyoxyethylene and polyoxypropylene block copolymers), polyoxyethylene fatty acid glycerides and oils, for example polyoxyethylene (8) caprylic/capric mono- and diglycerides (e.g., Labrasol<sup>TM</sup> of Gattefosse), polyoxyethylene (35) castor oil and polyoxyethylene (40) hydrogenated castor oil; polyoxyethylene alkyl ethers, for example polyoxyethylene (20) cetostearyl ether, polyoxyethylene fatty acid esters, for example polyoxyethylene (40) stearate, polyoxyethylene sorbitan esters, for example polysorbate 20 and polysorbate 80 (e.g., Tween<sup>TM</sup> 80 of ICI), propylene glycol fatty acid esters, for example propylene glycol laurate (e.g., Lauroglycol<sup>TM</sup> of Gattefosse), sodium lauryl sulfate, fatty acids and salts thereof, for example oleic acid, sodium

oleate and triethanolamine oleate, glyceryl fatty acid esters, for example glyceryl monostearate, sorbitan esters, for example sorbitan monolaurate, sorbitan monooleate, sorbitan monopalmitate and sorbitan monostearate, tyloxapol, and mixtures thereof. Such wetting agents, if present, constitute in total about 0.25% to about 15%, preferably about 0.4% to about 10%, and more preferably about 0.5% to about 5%, of the total weight of the pharmaceutical composition.

Wetting agents that are anionic surfactants are preferred. Sodium lauryl sulfate is a particularly preferred wetting agent. Sodium lauryl sulfate, if present, constitutes about 0.25% to about 7%, more preferably about 0.4% to about 4%, and still more preferably about 0.5% to about 2%, of the total weight of the pharmaceutical composition.

Pharmaceutical compositions of the invention optionally comprise one or more pharmaceutically acceptable lubricants (including anti-adherents and/or glidants) as excipients. Suitable lubricants include, but are not limited to, either individually or in combination, glyceryl behapate (e.g., Compritol<sup>TM</sup> 888 of Gattefosse); stearic acid and salts thereof, including magnesium, calcium and sodium stearates; hydrogenated vegetable oils (e.g., Sterotex<sup>TM</sup> of Abitec); colloidal silica; talc; waxes; boric acid; sodium benzoate; sodium acetate; sodium fumarate; sodium chloride; DL-leucine; PEG (e.g., Carbowax<sup>TM</sup> 4000 and Carbowax<sup>TM</sup> 6000 of the Dow Chemical Company); sodium oleate; sodium lauryl sulfate; and magnesium lauryl sulfate. Such lubricants, if present, constitute in total about 0.1% to about 10%, preferably about 0.2% to about 8%, and more preferably about 0.25% to about 5%, of the total weight of the pharmaceutical composition.

Magnesium stearate is a preferred lubricant used, for example, to reduce friction between the equipment and granulated mixture during compression of tablet formulations.

Suitable anti-adherents include, but are not limited to, talc, cornstarch, DL-leucine, sodium lauryl sulfate and metallic stearates. Talc is a preferred anti-adherent or glidant used, for example, to reduce formulation sticking to equipment surfaces and also to reduce static in the blend. Talc, if present, constitutes about 0.1% to about 10%, more preferably about 0.25% to about 5%, and still more preferably about 0.5% to about 2%, of the total weight of the pharmaceutical composition.

Glidants can be used to promote powder flow of a solid formulation. Suitable glidants include, but are not limited to, colloidal silicon dioxide, starch, talc, tribasic

calcium phosphate, powdered cellulose and magnesium trisilicate. Colloidal silicon dioxide is particularly preferred.

Other excipients such as colorants, flavors and sweeteners are known in the pharmaceutical art and can be used in pharmaceutical compositions of the present invention. Tablets can be coated, for example with an enteric coating, or uncoated. Compositions of the invention can further comprise, for example, buffering agents.

Optionally, one or more effervescent agents can be used as disintegrants and/or to enhance organoleptic properties of pharmaceutical compositions of the invention. When present in pharmaceutical compositions of the invention to promote dosage form disintegration, one or more effervescent agents are preferably present in a total amount of about 30% to about 75%, and preferably about 45% to about 70%, for example about 60%, by weight of the pharmaceutical composition.

According to a particularly preferred embodiment of the invention, an effervescent agent, present in a solid dosage form in an amount less than that effective to promote disintegration of the dosage form, provides improved dispersion of the API in an aqueous medium. Without being bound by theory, it is believed that the effervescent agent is effective to accelerate dispersion of the API from the dosage form in the gastrointestinal tract, thereby further enhancing absorption and rapid onset of therapeutic effect. When present in a pharmaceutical composition of the invention to promote intragastric dispersion but not to enhance disintegration, an effervescent agent is preferably present in an amount of about 1% to about 20%, more preferably about 2.5% to about 15%, and still more preferably about 5% to about 10%, by weight of the pharmaceutical composition.

An "effervescent agent" herein is an agent comprising one or more compounds which, acting together or individually, evolve a gas on contact with water. The gas evolved is generally oxygen or, most commonly, carbon dioxide. Preferred effervescent agents comprise an acid and a base that react in the presence of water to generate carbon dioxide gas. Preferably, the base comprises an alkali metal or alkaline earth metal carbonate or bicarbonate and the acid comprises an aliphatic carboxylic acid.

Non-limiting examples of suitable bases as components of effervescent agents useful in the invention include carbonate salts (e.g., calcium carbonate), bicarbonate salts (e.g., sodium bicarbonate), sesquicarbonate salts, and mixtures thereof. Calcium carbonate is a preferred base.

Non-limiting examples of suitable acids as components of effervescent agents and/or solid organic acids useful in the invention include citric acid, tartaric acid (as D-, L-, or D/L-tartaric acid), malic acid (as D-, L-, or DL-malic acid), maleic acid, fumaric acid, adipic acid, succinic acid, acid anhydrides of such acids, acid salts of such acids, and mixtures thereof. Citric acid is a preferred acid.

In a preferred embodiment of the invention, where the effervescent agent comprises an acid and a base, the weight ratio of the acid to the base is about 1:100 to about 100:1, more preferably about 1:50 to about 50:1, and still more preferably about 1:10 to about 10:1. In a further preferred embodiment of the invention, where the effervescent agent comprises an acid and a base, the ratio of the acid to the base is approximately stoichiometric.

Excipients which solubilize APIs typically have both hydrophilic and hydrophobic regions, or are preferably amphiphilic or have amphiphilic regions. One type of amphiphilic or partially-amphiphilic excipient comprises an amphiphilic polymer or is an amphiphilic polymer. A specific amphiphilic polymer is a polyalkylene glycol, which is commonly comprised of ethylene glycol and/or propylene glycol subunits. Such polyalkylene glycols can be esterified at their termini by a carboxylic acid, ester, acid anhydride or other suitable moiety. Examples of such excipients include poloxamers (symmetric block copolymers of ethylene glycol and propylene glycol; e.g., poloxamer 237), polyalkylene glycolated esters of tocopherol (including esters formed from a di- or multi-functional carboxylic acid; e.g., d-alpha-tocopherol polyethylene glycol-1000 succinate), and macrogolglycerides (formed by alcoholysis of an oil and esterification of a polyalkylene glycol to produce a mixture of mono-, di- and tri-glycerides and mono- and di-esters; e.g., stearyl macrogol-32 glycerides). Such pharmaceutical compositions are advantageously administered orally.

Pharmaceutical compositions of the present invention can comprise about 10 % to about 50 %, about 25 % to about 50 %, about 30 % to about 45 %, or about 30 % to about 35 % by weight of a co-crystal; about 10 % to about 50 %, about 25 % to about 50 %, about 30 % to about 45 %, or about 30 % to about 35 % by weight of an excipient which inhibits crystallization in aqueous solution, in simulated gastric fluid, or in simulated intestinal fluid; and about 5 % to about 50 %, about 10 % to about 40 %, about 15 % to about 35 %, or about 30 % to about 35 % by weight of a binding

agent. In one example, the weight ratio of the co-crystal to the excipient which inhibits crystallization to binding agent is about 1 to 1 to 1.

Solid dosage forms of the invention can be prepared by any suitable process, not limited to processes described herein.

An illustrative process comprises (a) a step of blending an API of the invention with one or more excipients to form a blend, and (b) a step of tableting or encapsulating the blend to form tablets or capsules, respectively.

In a preferred process, solid dosage forms are prepared by a process comprising (a) a step of blending a co-crystal of the invention with one or more excipients to form a blend, (b) a step of granulating the blend to form a granulate, and (c) a step of tableting or encapsulating the blend to form tablets or capsules respectively. Step (b) can be accomplished by any dry or wet granulation technique known in the art, but is preferably a dry granulation step. A salt of the present invention is advantageously granulated to form particles of about 1 micrometer to about 100 micrometer, about 5 micrometer to about 50 micrometer, or about 10 micrometer to about 25 micrometer. One or more diluents, one or more disintegrants and one or more binding agents are preferably added, for example in the blending step, a wetting agent can optionally be added, for example in the granulating step, and one or more disintegrants are preferably added after granulating but before tableting or encapsulating. A lubricant is preferably added before tableting. Blending and granulating can be performed independently under low or high shear. A process is preferably selected that forms a granulate that is uniform in API content, that readily disintegrates, that flows with sufficient ease so that weight variation can be reliably controlled during capsule filling or tableting, and that is dense enough in bulk so that a batch can be processed in the selected equipment and individual doses fit into the specified capsules or tablet dies.

In an alternative embodiment, solid dosage forms are prepared by a process that includes a spray drying step, wherein an API is suspended with one or more excipients in one or more sprayable liquids, preferably a non-protic (e.g., non-aqueous or non-alcoholic) sprayable liquid, and then is rapidly spray dried over a current of warm air.

A granulate or spray dried powder resulting from any of the above illustrative processes can be compressed or molded to prepare tablets or encapsulated to prepare capsules. Conventional tableting and encapsulation techniques known in the art can

be employed. Where coated tablets are desired, conventional coating techniques are suitable.

Excipients for tablet compositions of the invention are preferably selected to provide a disintegration time of less than about 30 minutes, preferably about 25 minutes or less, more preferably about 20 minutes or less, and still more preferably about 15 minutes or less, in a standard disintegration assay.

Pharmaceutically acceptable co-crystals can be administered by controlled- or delayed-release means. Controlled-release pharmaceutical products have a common goal of improving drug therapy over that achieved by their non-controlled release counterparts. Ideally, the use of an optimally designed controlled-release preparation in medical treatment is characterized by a minimum of drug substance being employed to cure or control the condition in a minimum amount of time. Advantages of controlled-release formulations include: 1) extended activity of the drug; 2) reduced dosage frequency; 3) increased patient compliance; 4) usage of less total drug; 5) reduction in local or systemic side effects; 6) minimization of drug accumulation; 7) reduction in blood level fluctuations; 8) improvement in efficacy of treatment; 9) reduction of potentiation or loss of drug activity; and 10) improvement in speed of control of diseases or conditions. Kim, Cherng-ju, *Controlled Release Dosage Form Design, 2* (Technomic Publishing, Lancaster, Pa.: 2000).

Conventional dosage forms generally provide rapid or immediate drug release from the formulation. Depending on the pharmacology and pharmacokinetics of the drug, use of conventional dosage forms can lead to wide fluctuations in the concentrations of the drug in a patient's blood and other tissues. These fluctuations can impact a number of parameters, such as dose frequency, onset of action, duration of efficacy, maintenance of therapeutic blood levels, toxicity, side effects, and the like. Advantageously, controlled-release formulations can be used to control a drug's onset of action, duration of action, plasma levels within the therapeutic window, and peak blood levels. In particular, controlled- or extended-release dosage forms or formulations can be used to ensure that the maximum effectiveness of a drug is achieved while minimizing potential adverse effects and safety concerns, which can occur both from under dosing a drug (i.e., going below the minimum therapeutic levels) as well as exceeding the toxicity level for the drug.

Most controlled-release formulations are designed to initially release an amount of drug (active ingredient) that promptly produces the desired therapeutic



effect, and gradually and continually release other amounts of drug to maintain this level of therapeutic or prophylactic effect over an extended period of time. In order to maintain this constant level of drug in the body, the drug must be released from the dosage form at a rate that will replace the amount of drug being metabolized and excreted from the body. Controlled-release of an active ingredient can be stimulated by various conditions including, but not limited to, pH, ionic strength, osmotic pressure, temperature, enzymes, water, and other physiological conditions or compounds.

A variety of known controlled- or extended-release dosage forms, formulations, and devices can be adapted for use with the co-crystals and compositions of the invention. Examples include, but are not limited to, those described in U.S. Pat. Nos.: 3,845,770; 3,916,899; 3,536,809; 3,598,123; 4,008,719; 5,674,533; 5,059,595; 5,591,767; 5,120,548; 5,073,543; 5,639,476; 5,354,556; 5,733,566; and 6,365,185 B1; each of which is incorporated herein by reference. These dosage forms can be used to provide slow or controlled-release of one or more active ingredients using, for example, hydroxypropylmethyl cellulose, other polymer matrices, gels, permeable membranes, osmotic systems (such as OROS® (Alza Corporation, Mountain View, Calif. USA)), multilayer coatings, microparticles, liposomes, or microspheres or a combination thereof to provide the desired release profile in varying proportions. Additionally, ion exchange materials can be used to prepare immobilized, adsorbed co-crystals and thus effect controlled delivery of the drug. Examples of specific anion exchangers include, but are not limited to, Duolite® A568 and Duolite® AP143 (Rohm & Haas, Spring House, PA. USA).

One embodiment of the invention encompasses a unit dosage form which comprises a pharmaceutically acceptable co-crystal, or a solvate, hydrate, dehydrate, anhydrous, or amorphous form thereof, and one or more pharmaceutically acceptable excipients or diluents, wherein the pharmaceutical composition or dosage form is formulated for controlled-release. Specific dosage forms utilize an osmotic drug delivery system.

A particular and well-known osmotic drug delivery system is referred to as OROS® (Alza Corporation, Mountain View, Calif. USA). This technology can readily be adapted for the delivery of compounds and compositions of the invention. Various aspects of the technology are disclosed in U.S. Pat. Nos. 6,375,978 B1;

6,368,626 B1; 6,342,249 B1; 6,333,050 B2; 6,287,295 B1; 6,283,953 B1; 6,270,787 B1; 6,245,357 B1; and 6,132,420; each of which is incorporated herein by reference. Specific adaptations of OROS® that can be used to administer compounds and compositions of the invention include, but are not limited to, the OROS® Push-Pull™, Delayed Push-Pull™, Multi-Layer Push-Pull™, and Push-Stick™ Systems, all of which are well known. See, e.g., <http://www.alza.com>. Additional OROS® systems that can be used for the controlled oral delivery of compounds and compositions of the invention include OROS®-CT and L-OROS®. Id.; see also, Delivery Times, vol. II, issue II (Alza Corporation).

Conventional OROS® oral dosage forms are made by compressing a drug powder (e.g. co-crystal) into a hard tablet, coating the tablet with cellulose derivatives to form a semi-permeable membrane, and then drilling an orifice in the coating (e.g., with a laser). Kim, Cherng-ju, Controlled Release Dosage Form Design, 231-238 (Technomic Publishing, Lancaster, Pa.: 2000). The advantage of such dosage forms is that the delivery rate of the drug is not influenced by physiological or experimental conditions. Even a drug with a pH-dependent solubility can be delivered at a constant rate regardless of the pH of the delivery medium. But because these advantages are provided by a build-up of osmotic pressure within the dosage form after administration, conventional OROS® drug delivery systems cannot be used to effectively deliver drugs with low water solubility. Id. at 234. Because co-crystals of this invention can be far more soluble in water than the API itself, they are well suited for osmotic-based delivery to patients. This invention does, however, encompass the incorporation of conventional crystalline API (e.g. pure API without co-crystal former), and non-salt isomers and isomeric mixtures thereof, into OROS® dosage forms.

A specific dosage form of the invention comprises: a wall defining a cavity, the wall having an exit orifice formed or formable therein and at least a portion of the wall being semipermeable; an expandable layer located within the cavity remote from the exit orifice and in fluid communication with the semipermeable portion of the wall; a dry or substantially dry state drug layer located within the cavity adjacent to the exit orifice and in direct or indirect contacting relationship with the expandable layer; and a flow-promoting layer interposed between the inner surface of the wall and at least the external surface of the drug layer located within the cavity, wherein

the drug layer comprises a co-crystal, or a solvate, hydrate, dehydrate, anhydrous, or amorphous form thereof. See U.S. Pat. No. 6,368,626, the entirety of which is incorporated herein by reference.

Another specific dosage form of the invention comprises: a wall defining a cavity, the wall having an exit orifice formed or formable therein and at least a portion of the wall being semipermeable; an expandable layer located within the cavity remote from the exit orifice and in fluid communication with the semipermeable portion of the wall; a drug layer located within the cavity adjacent the exit orifice and in direct or indirect contacting relationship with the expandable layer; the drug layer comprising a liquid, active agent formulation absorbed in porous particles, the porous particles being adapted to resist compaction forces sufficient to form a compacted drug layer without significant exudation of the liquid, active agent formulation, the dosage form optionally having a placebo layer between the exit orifice and the drug layer, wherein the active agent formulation comprises a co-crystal, or a solvate, hydrate, dehydrate, anhydrous, or amorphous form thereof. See U.S. Pat. No. 6,342,249, the entirety of which is incorporated herein by reference.

The invention will now be described in further detail, by way of example, with reference to the accompanying drawings.

## EXEMPLIFICATION

### General Methods for the Preparation of Co-Crystals

#### a) High Throughput crystallization using the CrystalMax platform

CrystalMax™ comprises a sequence of automated, integrated high throughput robotic stations capable of rapid generation, identification and characterization of polymorphs, salts, and co-crystals of APIs and API candidates. Worksheet generation and combinatorial mixture design is carried out using proprietary design software InForm™. Typically, an API or an API candidate is dispensed from an organic solvent into tubes and dried under a stream of nitrogen. Salts and/or co-crystal formers may also be dispensed and dried in the same fashion. Water and organic solvents may be combinatorially dispensed into the tubes using a multi-channel dispenser. Each tube in a 96-tube array is then sealed within 15 seconds of combinatorial dispensing to avoid solvent evaporation. The mixtures are then

rendered supersaturated by heating to 70 degrees C for 2 hours followed by a 1 degree C/minute cooling ramp to 5 degrees C. Optical checks are then conducted to detect crystals and/or solid material. Once a solid has been identified in a tube, it is isolated through aspiration and drying. Raman spectra are then obtained on the solids and cluster classification of the spectral patterns is performed using proprietary software (QForm™).

b) Crystallization from solution

Co-crystals may be obtained by dissolving the separate components in a solvent and adding one to the other. The co-crystal may then precipitate or crystallize as the solvent mixture is evaporated slowly. The co-crystal may also be obtained by dissolving the two components in the same solvent or a mixture of solvents.

c) Crystallization from the melt

A co-crystal may be obtained by melting the two components together and allowing recrystallization to occur. In some cases, an anti-solvent may be added to facilitate crystallization.

d) Thermal microscopy

A co-crystal may be obtained by melting the higher melting component on a glass slide and allowing it to recrystallize. The second component is then melted and is also allowed to recrystallize. The co-crystal may form as a separated phase/band in between the eutectic bands of the two original components.

e) Mixing and/or grinding

A co-crystal may be obtained by mixing or grinding two components together in the solid state.

## Analytical Methods

### Procedure for DSC analysis

DSC analysis of the samples was performed using a Q1000 Differential Scanning Calorimeter (TA Instruments, New Castle, DE, U.S.A.), which uses Advantage for QW-Series, version 1.0.0.78, Thermal Advantage Release 2.0 (©2001 TA Instruments-Water LLC). In addition, the analysis software used was Universal Analysis 2000 for Windows 95/95/2000/NT, version 3.1E;Build 3.1.0.40 (©2001 TA Instruments-Water LLC).

For the DSC analysis, the purge gas used was dry nitrogen, the reference material was an empty aluminum pan that was crimped, and the sample purge was 50 mL/minute.

DSC analysis of the sample was performed by placing  $\leq 2$  mg of sample in an aluminum pan with a crimped pan closure. The starting temperature was typically 20 degrees C with a heating rate of 10 degrees C/minute, and the ending temperature was 300 degrees C. Unless otherwise indicated, all reported transitions are as stated  $\pm 1.0$  degrees C.

#### Procedure for TGA analysis

TGA analysis of samples was performed using a Q500 Thermogravimetric Analyzer (TA Instruments, New Castle, DE, U.S.A.), which uses Advantage for QW-Series, version 1.0.0.78, Thermal Advantage Release 2.0 (<sup>®</sup>2001 TA Instruments-Water LLC). In addition, the analysis software used was Universal Analysis 2000 for Windows 95/95/2000/NT, version 3.1E; Build 3.1.0.40 (<sup>®</sup>2001 TA Instruments-Water LLC).

For all of the TGA experiments, the purge gas used was dry nitrogen, the balance purge was 40 mL/minute N<sub>2</sub>, and the sample purge was 60 mL/minute N<sub>2</sub>.

TGA of the sample was performed by placing  $\leq 2$  mg of sample in a platinum pan. The starting temperature was typically 20 degrees C with a heating rate of 10 degrees C/minute, and the ending temperature was 300 degrees C.

#### Procedure for PXRD analysis

A powder X-ray diffraction pattern for the samples was obtained using a D/Max Rapid, Contact (Rigaku/MS, The Woodlands, TX, U.S.A.), which uses as its control software RINT Rapid Control software, Rigaku Rapid/XRD, version 1.0.0 (<sup>®</sup>1999 Rigaku Co.). In addition, the analysis software used were RINT Rapid display software, version 1.18 (Rigaku/MS), and JADE XRD Pattern Processing, versions 5.0 and 6.0 (<sup>®</sup>1995-2002, Materials Data, Inc.).

4 4 4 1954 2 27 7 23

1

(Exposure times and number of exposures may vary; changes to parameters will be indicated for each acquisition.)

### *Filtering and Binning*

Each spectrum in a set was filtered using a matched filter of feature size 25 to remove background signals, including glass contributions and sample fluorescence. This is particularly important as large background signal or fluorescence limit the ability to accurately pick and assign peak positions in the subsequent steps of the binning process. Filtered spectra were binned using the peak pick and bin algorithm with the parameters given in Table B. The sorted cluster diagrams for each sample set and the corresponding cluster assignments for each spectral file were used to identify groups of samples with similar spectra, which was used to identify samples for secondary analyses.

Table A. Raman Spectral acquisition parameters

Parameter	Setting Used
Exposure time (s)	2.0
Number of exposures	10
Laser source wavelength (nm)	785
Laser power (%)	100
Aperture shape	pin hole
Aperture size (um)	100
Spectral range	104-3428
Grating position	Single
Temperature at acquisition (degrees C)	24.0

Table B. Raman Filtering and Binning Parameters

Parameter	Setting Used
<i>Filtering Parameters</i>	
Filter type	Matched
Filter size	25
<i>QC Parameters</i>	
Peak Height Threshold	1000
Region for noise test (cm <sup>-1</sup> )	0-10000
RMS noise threshold	10000
Automatically eliminate failed spectra	Yes
<i>Region of Interest</i>	
Include (cm <sup>-1</sup> )	104-3428

Exclude region I (cm <sup>-1</sup> )	
Exclude region II (cm <sup>-1</sup> )	
Exclude region III (cm <sup>-1</sup> )	
Exclude region IV (cm <sup>-1</sup> )	
<i>Peak Pick Parameters</i>	
Peak Pick Sensitivity	Variable
Peak Pick Threshold	100
<i>Peak Comparison Parameters</i>	
Peak Window (cm <sup>-1</sup> )	2
<i>Analysis Parameters</i>	
Number of clusters	Variable

#### Procedure for Single Crystal X-Ray Diffraction

Single crystal x-ray data were collected on a Bruker SMART-APEX CCD diffractometer (M. J. Zawarotko, Department of Chemistry, University of South Florida). Lattice parameters were determined from least squares analysis. Reflection data was integrated using the program SAINT. The structure was solved by direct methods and refined by full matrix least squares using the program SHELXTL (Sheldrick, G. M. SHELXTL, Release 5.03; Siemens Analytical X-ray Instruments Inc.: Madison, WI).

The co-crystals of the present invention can be characterized, e.g., by the TGA or DSC data or by any one, any two, any three, any four, any five, any six, any seven, any eight, any nine, any ten, or any single integer number of PXRD 2-theta angle peaks or Raman shift peaks listed herein or disclosed in a figure, or by single crystal x-ray diffraction data.

#### Example 1

1:1 carbamazepine:saccharin co-crystals (Form I) were prepared. A 12-block experiment was designed with 12 solvents. 1152 crystallization experiments were carried out using the CMAX platform. The co-crystal was obtained from a mixture of isopropyl acetate and heptane. Detailed characterization of the co-crystal is listed in Table V. (See Figs. 1 and 2)



**Example 2**

1:1 carbamazepine:nicotinamide co-crystals (Form I) were prepared. A 12-block experiment was designed with 12 solvents. 1152 crystallization experiments were carried out using the CMAX platform. The co-crystal was obtained from samples containing toluene, acetone, or isopropyl acetate. Detailed characterization of the co-crystal is listed in Table V. (See Figs. 3 and 4)

**Example 3**

1:1 carbamazepine:trimesic acid co-crystals (Form I) were prepared. A 9-block experiment was designed with 10 solvents. 864 crystallization experiments with 8 co-crystal formers and 3 concentrations were carried out using the CMAX platform. The co-crystal was obtained from samples containing methanol. Detailed characterization of the co-crystal is listed in Table V. (See Fig. 5)

**Example 4**

1:1 celecoxib:nicotinamide co-crystals were prepared. Celecoxib (100 mg, 0.26 mmol) and nicotinamide (32.0 mg, 0.26 mmol) were each dissolved in acetone (2 mL). The two solutions were mixed and the resulting mixture was allowed to evaporate slowly overnight. The precipitated solid was collected and characterized. Detailed characterization of the co-crystal is listed in Table V.

**Example 5**

Co-crystals of topiramate and 18-crown-6 were prepared. An equimolar amount of topiramate and 18-crown-6 were dissolved in ether separately. The solution containing topiramate was then added to the solution containing 18-crown-6. A white solid precipitated after minor agitation and was collected and dried. Detailed characterization of the co-crystal is listed in Table V. (See Figs. 6 and 7)

**Example 6**

Co-crystals of olanzapine and nicotinamide (Form I and II) were prepared. A 9-block experiment was designed with 12 solvents. 864 crystallization experiments with 10 co-crystal formers and 3 concentrations were carried out using the CMAX platform. The co-crystal was obtained from tubes containing isopropyl acetate. PXRD and

DSC characterization of the co-crystal (Form I and II) is listed in Table V. (See Figs. 8, 9, and 30)

#### Example 7

Co-crystals of celecoxib and 18-crown-6 were prepared. A solution of celecoxib (157.8 mg, 0.4138 mmol) in Et<sub>2</sub>O (10.0 mL) was added to 18-crown-6 (118.1 mg, 0.447 mmol). The opaque solid dissolves immediately and a white solid subsequently began to crystallize very rapidly. The solid was collected via filtration and was washed with additional Et<sub>2</sub>O (5 mL). Detailed characterization of the co-crystal is listed in Table V. (See Figs. 10 and 11)

#### Example 8

Co-crystals of itraconazole and succinic acid were prepared. Approximately 51.1 mg of *cis*-itraconazole free base, 0.75 mL of THF, and a magnetic stir bar were charged into a screw cap vial, heated to reflux to dissolve, and then the vial was closed with the screw cap and placed on top of a hot plate maintained at a temperature between 60 and 75 degrees C. A solution of 77.7 mg of succinic acid in 1.58 mL of THF was prepared. 0.20 mL of the succinic acid solution was added to the *cis*-itraconazole solution and the solution remained clear. 0.75 mL of iso-propylacetate was added and the solution was seeded with <1 mg of the L-tartaric acid co-crystal salt from Example 10 below. The heat was turned off and the sample crystallized as it cooled to room temperature. The cooled sample was suction filtered. It was rinsed with 0.2-0.3 mL of THF. The filter cake was broken-up and allowed to air-dry for 1 hour prior to analysis. (See Figs. 12 and 13)

#### Example 9

Co-crystals of itraconazole and fumaric acid were prepared. Approximately 500 mg of *cis*-itraconazole free base was placed in a 50 mL screw top bottle along with 33.33 mL of tetrahydrofuran (THF). 3.0887 mL of fumaric acid stock solution (prepared in Example 1) was then added to the beaker (resulting in a 1.05:1 ratio of salt former to free base). The cap was screwed on to seal the bottle and the bottle was placed in a 70 degrees C oven (Model # 1400E, VWR Scientific) and heated for approximately 1 hour. Thereafter, the bottle was removed from the oven, the cap from the bottle was removed, and the sample was allowed to evaporate under flowing

air under ambient conditions. When all but about 5 mL of the solvent had evaporated, the remaining solvent was removed by decantation and the solid was isolated by filtering over a Whatman filter using suction. This solid was returned back into the 50 mL bottle with the remaining solid and the bottle was placed into the vacuum oven at approximately 25 mm Hg and the solid was allowed to dry for 4 days prior to analysis. (See Figs. 14 and 15)

#### Example 10

Co-crystals of itraconazole and tartaric acid were prepared. Approximately 100.4 mg of *cis*-itraconazole free base, 0.90 mL of THF, and a magnetic stir bar were charged into a screw cap vial, heated to reflux to dissolve, and then the vial was closed with the screw cap and placed in an oil bath maintained at 70 degrees C. A solution of 138.5 mg of L(+) tartaric acid in 1.15 mL of THF was prepared. 0.21 mL of the L(+)tartaric acid solution was added to the *cis*-itraconazole solution and the solution remained clear. 0.90 mL of iso-propylacetate was added and the solution was seeded with <1 mg of the salt from a preparation of DL-tartaric acid co-crystal. The sample was allowed to crystallize over about 5 minutes in the 70 degrees C oil bath before it was removed and allowed to cool to room temperature. The cooled sample was suction filtered. It was rinsed with 0.2-0.3 mL of THF. The filter cake was broken-up and allowed to air-dry for 4 hours prior to analysis. (See Figs. 16 and 17)

#### Example 11

Co-crystals of itraconazole and malic acid were prepared. To prepare the L-malic acid co-crystal salt of *cis*-itraconazole, 100.4 mg of *cis*-itraconazole free base, 0.50 mL of THF, and a magnetic stir bar were charged into a screw cap vial. A solution of 191.3 mg of L(-)malic acid in 5.0 mL of THF was prepared. 0.50 mL of the L-malic acid solution was added to the vial containing *cis*-itraconazole and the solution was heated with a heat gun to dissolve. The solution was allowed to cool and was then seeded with <1 mg of the salt from *cis*-itraconazole-L-tartaric acid co-crystal. The cooled crystals were filtered in a centrifuge filter tube. The filter cake was broken-up and allowed to air-dry prior to analysis. (See Figs. 18 and 19)

**Example 12**

Co-crystals of itraconazole HCl and tartaric acid were prepared. Approximately 212.7mg of L-tartaric acid and 118 microL of 37% HCl were dissolved in 25 mL of hot dioxane. This solution was added to 1.0 g of *cis*-itraconazole dissolved in 50 mL of hot dioxane with stirring. The mixture was heated until a clear solution formed and was then allowed to cool to room temperature. Upon cooling, 50 mL tert-butyl methyl ether was added and the crystals were harvested by vacuum filtration on a Buchner funnel with #4 Whatman filter paper. The crystals were washed 3 times with 5 mL aliquots of cold tert-butyl methyl ether and left to air dry. Approximately 573 mg of a crystalline form of *cis*-itraconazole HCl-tartaric acid (1:1:0.5) co-crystal were obtained. (See Figs. 20 and 21)

**Example 13**

Co-crystals of modafinil and malonic acid were prepared. Using a 250 mg/ml modafinil-acetic acid solution, malonic acid was dissolved on a hotplate (about 67 degrees C) at a 1:2 modafinil to malonic acid ratio. The mixture was dried under flowing nitrogen overnight. A powdery white solid was produced. After further drying for 1 day, acetic acid is removed (as determined by TGA) and the crystal structure, as determined by PXRD, remains the same. (See Fig. 22)

**Example 14**

Co-crystals of modafinil and benzamide were prepared. Modafinil (1 mg, 0.0037mmol) and benzamide (0.45 mg, 0.0037 mmol) were dissolved in 1,2-dichloroethane (400 microL). The solution was allowed to evaporate to dryness and the resulting solid was characterized using PXRD. PXRD data for the co-crystal is listed in Table V. (See Fig. 23)

**Example 15**

Co-crystals of modafinil and mandelic acid were prepared. Modafinil (1 mg, 0.0037mmol) and mandelic acid (0.55 mg, 0.0037 mmol) were dissolved in acetone (400 microL). The solution was allowed to evaporate to dryness and the resulting

solid was characterized using PXRD. PXRD data for the co-crystal is listed in Table V. (See Fig. 24)

#### Example 16

Co-crystals of modafinil and glycolic acid were prepared. Modafinil (1 mg, 0.0037mmol) and glycolic acid (0.30 mg, 0.0037 mmol) were dissolved in acetone (400 microL). The solution was allowed to evaporate to dryness and the resulting solid was characterized using PXRD. PXRD data for the co-crystal is listed in Table V. (See Fig. 25)

#### Example 17

Co-crystals of modafinil and fumaric acid were prepared. Modafinil (1 mg, 0.0037mmol) and fumaric acid (0.42 mg, 0.0037 mmol) were dissolved in 1,2-dichloroethane (400 microL). The solution was allowed to evaporate to dryness and the resulting solid was characterized using PXRD. PXRD data for the co-crystal is listed in Table V. (See Fig. 26)

#### Example 18

Co-crystals of modafinil and maleic acid were prepared. Using a 250 mg/ml modafinil-acetic acid solution, maleic acid was dissolved on a hotplate (about 67 degrees C) at a 2:1 modafinil to maleic ratio. The mixture was dried under flowing nitrogen overnight. A clear amorphous material remained. Solids began to grow after 2 days stored in a sealed vial at room temperature. (See Fig. 43)

#### Example 19

Co-crystals of olanzapine and nicotinamide (Form III) were prepared. Olanzapine (40  $\mu$ L of 25 mg/mL stock solution in tetrahydrofuran) and nicotinamide (37.6  $\mu$ L of 20 mg/mL stock solution in methanol) were added to a glass vial and dried under a flow of nitrogen. To the solid mixture was added isopropyl acetate (100  $\mu$ L) and the vial was sealed with an aluminum cap. The suspension was then heated at 70 degrees C for two hours in order to dissolve all of the solid material. The solution was then cooled to 5 degrees C and maintained at that temperature for 24 hours. After 24 hours the vial was uncapped and the mixture was concentrated to 50  $\mu$ L of total volume. The vial was then resealed with an aluminum cap and was maintained at 5 degrees C

for an additional 24 hours. Large, yellow plates were observed and were collected (Form III). The solid was characterized with single crystal x-ray diffraction and powder x-ray diffraction. PXRD characterization of the co-crystal is listed in Table V. (See Fig. 31 and 32A-D)

Single crystal x-ray analysis reveals that the olanzapine:nicotinamide (Form III) co-crystal is made up of a ternary system containing olanzapine, nicotinamide, water and isopropyl acetate in the unit cell. The co-crystal crystallizes in the monoclinic space group  $P2_1/c$  and contains one olanzapine, one nicotinamide, 4 waters and one isopropyl acetate solvate in the asymmetric unit. The packing diagram is made up of a two-dimensional hydrogen-bonded network with the water molecules connecting the olanzapine and nicotinamide moieties. The packing diagram is also comprised of alternating olanzapine and nicotinamide layers connected through hydrogen bonding via the water and isopropyl acetate molecules, as shown in Figure 32B. The olanzapine layer propagates along the b axis at  $c/4$  and  $3c/4$ . The nicotinamide layer propagates along the b axis at  $c/2$ . The top of Figure 32C illustrates the nicotinamide superstructure. The nicotinamide molecules form dimers which hydrogen bond to chains of 4 water molecules. The water chains terminate with isopropyl acetate molecules on each side.

Crystal data:  $C_{45}H_{64}N_{10}O_7S_2$ ,  $M = 921.18$ , monoclinic  $P2_1/c$ ;  $a = 14.0961(12) \text{ \AA}$ ,  $b = 12.5984(10) \text{ \AA}$ ,  $c = 27.219(2) \text{ \AA}$ ,  $\alpha = 90^\circ$ ,  $\beta = 97.396(2)^\circ$ ,  $\gamma = 90^\circ$ ,  $T = 100(2) \text{ K}$ ,  $Z = 4$ ,  $D_c = 1.276 \text{ Mg/m}^3$ ,  $U = 4793.6(7) \text{ \AA}^3$ ,  $\lambda = 0.71073 \text{ \AA}$ ; 24952 reflections measured, 8457 unique ( $R_{int} = 0.0882$ ). Final residuals were  $R_1 = 0.0676$ ,  $wR_2 = 0.1461$  for  $I > 2\sigma(I)$ , and  $R_1 = 0.1187$ ,  $wR_2 = 0.1687$  for all 8457 data.

#### Example 20

Co-crystals of 5-fluorouracil and urea were prepared. To 5-fluorouracil (1g, 7.69 mmol) and urea (0.46g, 7.69 mmol) was added methanol (100 mL). The solution was heated at 65 degrees C and sonicated until all the material dissolved. The solution was then cooled to 5 degrees C and maintained at that temperature overnight. After about 3 days a white precipitate was observed and collected. The solid was characterized by DSC, PXRD, Raman spectroscopy, and TGA. Characterization data are listed in Table V. (See Figs. 33- 36)

**Example 21**

Co-crystals of hydrochlorothiazide and nicotinic acid were prepared.

Hydrochlorothiazide (12.2 mg, 0.041 mmol) and nicotinic acid (5 mg, 0.041 mmol) were dissolved in methanol (1 mL). The solution was then cooled to 5 degrees C and maintained at that temperature for 12 hours. A white solid precipitated and was collected and characterized using PXRD. (See Fig. 37)

**Example 22**

Co-crystals of hydrochlorothiazide and 18-crown-6 were prepared.

Hydrochlorothiazide (100 mg, 0.33 mmol) was dissolved in diethyl ether (15 mL) and was added to a solution of 18-crown-6 (87.2 mg, 0.33 mmol) in diethyl ether (15 mL). A white precipitate immediately began to form and was collected and characterized as the hydrochlorothiazide:18-crown-6 co-crystal using PXRD. (See Fig. 38)

**Example 23**

Co-crystals of hydrochlorothiazide and piperazine were prepared.

Hydrochlorothiazide (17.3 mg, 0.058 mmol) and piperazine (5 mg, 0.058 mmol) were dissolved in a 1:1 mixture of ethyl acetate and acetonitrile (1 mL). The solution was then cooled to 5 degrees C and maintained at that temperature for 12 hours. A white solid precipitated and was collected and characterized using PXRD. (See Fig. 39)

**Example 24**

Acetaminophen:4,4'-bipyridine:water (1:1:1 stoichiometry)

50 mg (0.3307 mmol) acetaminophen and 52 mg (0.3329 mmol) 4,4'-bipyridine were dissolved in hot water and allowed to stand. Slow evaporation yielded colorless needles of a 1:1:1 acetaminophen/4,4'-bipyridine/water co-crystal, as shown in Figure 44A-B.

Crystal data: (Bruker SMART-APEX CCD Diffractometer).  $C_{36}H_{44}N_2O_4$ ,  $M=339.84$ , triclinic, space group  $P\bar{1}$ ;  $a = 7.0534(8)$ ,  $b = 9.5955(12)$ ,  $c = 19.3649(2)$  Å,  $\alpha = 86.326(2)$ ,  $\beta = 80.291(2)$ ,  $\gamma = 88.880(2)^\circ$ ,  $U = 1308.1(3)$  Å<sup>3</sup>,  $T = 200(2)$  K,  $Z = 2$ ,  $\mu(\text{Mo-K}\alpha) = 0.090$  mm<sup>-1</sup>,  $D_c = 1.294$  Mg/m<sup>3</sup>,  $\lambda = 0.71073$  Å,  $F(000) = 537$ ,  $2\theta_{\text{max}} = 25.02^\circ$ ; 6289 reflections measured, 4481 unique ( $R_{\text{int}} = 0.0261$ ). Final

residuals for 344 parameters were  $R_1 = 0.0751$ ,  $wR_2 = 0.2082$  for  $I > 2\sigma(I)$ , and  $R_1 = 0.1119$ ,  $wR_2 = 0.2377$  for all 4481 data.

**Crystal packing:** The co-crystals contain bilayered sheets in which water molecules act as a hydrogen bonded bridge between the network bipyridine moieties and the acetaminophen. Bipyridine guests are sustained by  $\pi$ - $\pi$  stacking interactions between two network bipyridines. The layers stack via  $\pi$ - $\pi$  interactions between the phenyl groups of the acetaminophen moieties.

**Differential Scanning Calorimetry:** (TA Instruments 2920 DSC), 57.77 degrees C (endotherm); m.p. = 58-60 degrees C (MEL-TEMP); (acetaminophen m.p. = 169 degrees C, 4,4'-bipyridine m.p. = 111-114 degrees C).

#### Example 25

Phenytol:Pyridone (1:1 stoichiometry)

28 mg (0.1109 mmol) phenytol and 11 mg (0.1156 mmol) 4-hydroxypyridone were dissolved in 2 mL acetone and 1 mL ethanol with heating and stirring. Slow evaporation yielded colorless needles of a 1:1 phenytol/pyridone co-crystal, as shown in Figure 45A-B.

**Crystal data:** (Bruker SMART-APEX CCD Diffractometer),  $C_{20}H_{17}N_3O_3$ ,  $M = 347.37$ , monoclinic  $P2_1/c$ ;  $a = 16.6583(19)$ ,  $b = 8.8478(10)$ ,  $c = 11.9546(14)$  Å,  $\beta = 96.618(2)^\circ$ ,  $U = 1750.2(3)$  Å<sup>3</sup>,  $T = 200(2)$  K,  $Z = 4$ ,  $\mu(\text{Mo-K}\alpha) = 0.091$  mm<sup>-1</sup>,  $D_c = 1.318$  Mg/m<sup>3</sup>,  $\lambda = 0.71073$  Å,  $F(000) = 728$ ,  $2\theta_{\text{max}} = 56.60^\circ$ ; 10605 reflections measured, 4154 unique ( $R_{\text{int}} = 0.0313$ ). Final residuals for 247 parameters were  $R_1 = 0.0560$ ,  $wR_2 = 0.1356$  for  $I > 2\sigma(I)$ , and  $R_1 = 0.0816$ ,  $wR_2 = 0.1559$  for all 4154 data.

**Crystal packing:** The co-crystal is sustained by hydrogen bonding of adjacent phenytol molecules between the carbonyl and the amine closest to the tetrahedral carbon, and by hydrogen bonding between pyridone carbonyl functionalities and the amine not involved in phenytol-phenytol interactions. The pyridone carbonyl also hydrogen bonds with adjacent pyridone molecules forming a one-dimensional network.

**Infrared Spectroscopy:** (Nicolet Avatar 320 FTIR), characteristic peaks for the co-crystal were identified as: 2° amine found at 3311 cm<sup>-1</sup>, carbonyl (ketone) found at 1711 cm<sup>-1</sup>, olefin peak found at 1390 cm<sup>-1</sup>.



Differential Scanning Calorimetry: (TA Instruments 2920 DSC), 233.39 degrees C (endotherm) and 271.33 degrees C (endotherm); m.p. = 231-233 degrees C (MEL-TEMP); (phenytoin m.p. = 295 degrees C, pyridone m.p. = 148 degrees C).

Thermogravimetric Analysis: (TA Instruments 2950 Hi-Resolution TGA), a 29.09% weight loss starting at 192.80 degrees C, 48.72% weight loss starting at 238.27 degrees C, and 18.38% loss starting at 260.17 degrees C followed by complete decomposition.

Powder x-ray diffraction: (Rigaku Miniflex Diffractometer using Cu K $\alpha$  ( $\lambda$  = 1.540562), 30kV, 15mA). The powder data were collected over an angular range of 3° to 40° 2 $\theta$  in continuous scan mode using a step size of 0.02° 2 $\theta$  and a scan speed of 2.0°/minute. PXRD: Showed analogous peaks to the simulated PXRD derived from the single crystal data. In all cases of recrystallization and solid state reaction, experimental (calculated): 5.2 (5.3); 11.1 (11.3); 15.1 (15.2); 16.2 (16.4); 16.7 (17.0); 17.8 (17.9); 19.4 (19.4); 19.8 (19.7); 20.3 (20.1); 21.2 (21.4); 23.3 (23.7); 26.1 (26.4); 26.4 (26.6); 27.3 (27.6); 29.5 (29.9).

#### Example 26

Aspirin (acetylsalicylic acid):4,4'-bipyridine (2:1 stoichiometry)

50 mg (0.2775 mmol) aspirin and 22 mg (0.1388 mmol) 4,4'-bipyridine were dissolved in 4 mL hexane. 8 mL ether was added to the solution and allowed to stand for one hour, yielding colorless needles of a 2:1 aspirin/4,4'-bipyridine co-crystal, as shown in Figure 46A-D. Alternatively, aspirin/4,4'-bipyridine (2:1 stoichiometry) can be made by grinding the solid ingredients in a pestle and mortar.

Crystal data: (Bruker SMART-APEX CCD Diffractometer), C<sub>28</sub>H<sub>24</sub>N<sub>2</sub>O<sub>8</sub>, M = 516.49, orthorhombic *Pbcn*; a = 28.831(3), b = 11.3861(12), c = 8.4144(9) Å, U = 2762.2(5) Å<sup>3</sup>, T = 173(2) K, Z = 4,  $\mu$ (Mo-K $\alpha$ ) = 0.092 mm<sup>-1</sup>, D<sub>c</sub> = 1.242 Mg/m<sup>3</sup>,  $\lambda$  = 0.71073 Å, F(000) = 1080, 2 $\theta_{\max}$  = 25.02°; 12431 reflections measured, 2433 unique ( $R_{\text{int}}$  = 0.0419). Final residuals for 202 parameters were  $R_1$  = 0.0419,  $wR_2$  = 0.1358 for I > 2 $\sigma$ (I), and  $R_1$  = 0.0541,  $wR_2$  = 0.1482 for all 2433 data.

Crystal packing: The co-crystal contains the carboxylic acid-pyridine heterodimer that crystallizes in the *Pbcn* space group. The structure is an inclusion compound containing disordered solvent in the channels. In addition to the dominant hydrogen bonding interaction of the heterodimer,  $\pi$ - $\pi$  stacking of the bipyridine and

phenyl groups of the aspirin and hydrophobic interactions contribute to the overall packing interactions.

Infrared Spectroscopy: (Nicolet Avatar 320 FTIR), characteristic (-COOH) peak at  $1679\text{ cm}^{-1}$  was shifted up and less intense at  $1694\text{ cm}^{-1}$ , where as the lactone peak is shifted down slightly from  $1750\text{ cm}^{-1}$  to  $1744\text{ cm}^{-1}$ .

Differential Scanning Calorimetry: (TA Instruments 2920 DSC), 95.14 degrees C (endotherm); m.p. = 91-96 degrees C (MEL-TEMP); (aspirin m.p. = 1345 degrees C, 4,4'-bipyridine m.p. = 111-114 degrees C).

Thermogravimetric Analysis: (TA Instruments 2950 Hi-Resolution TGA), weight loss of 9% starting at 22.62 degrees C, 49.06% weight loss starting at 102.97 degrees C followed by complete decomposition starting at 209.37 degrees C.

#### Example 27

Ibuprofen:4,4'-Bipyridine (2:1 stoichiometry)

50 mg (0.242 mmol) racemic ibuprofen and 18mg (0.0960 mmol) 4,4'-bipyridine were dissolved in 5 mL acetone. Slow evaporation of the solvent yielded colorless needles of a 2:1 ibuprofen/4,4'-bipyridine co-crystal, as shown in Figure 47A-D.

Crystal data: (Bruker SMART-APEX CCD Diffractometer),  $\text{C}_{36}\text{H}_{44}\text{N}_2\text{O}_4$ ,  $M = 568.73$ , triclinic, space group  $P-1$ ;  $a = 5.759(3)$ ,  $b = 11.683(6)$ ,  $c = 24.705(11)\text{ \AA}$ ,  $\alpha = 93.674(11)$ ,  $\beta = 90.880(10)$ ,  $\gamma = 104.045(7)^\circ$ ,  $U = 1608.3(13)\text{ \AA}^3$ ,  $T = 200(2)\text{ K}$ ,  $Z = 2$ ,  $\mu(\text{Mo-K}\alpha) = 0.076\text{ mm}^{-1}$ ,  $D_c = 1.174\text{ Mg/m}^3$ ,  $\lambda = 0.71073\text{ \AA}$ ,  $F(000) = 612$ ,  $2\theta_{\text{max}} = 23.29^\circ$ ; 5208 reflections measured, 3362 unique ( $R_{\text{int}} = 0.0826$ ). Final residuals for 399 parameters were  $R_1 = 0.0964$ ,  $wR_2 = 0.2510$  for  $I > 2\sigma(I)$ , and  $R_1 = 0.1775$ ,  $wR_2 = 0.2987$  for all 3362 data.

Crystal packing: The co-crystal contains ibuprofen/bipyridine heterodimers, sustained by two hydrogen bonded carboxylic acidpyridine supramolecular synthons, arranged in a herringbone motif that packs in the space group  $P-1$ . The heterodimer is an extended version of the homodimer and packs to form a two-dimensional network sustained by  $\pi$ - $\pi$  stacking of the bipyridine and phenyl groups of the ibuprofen and hydrophobic interactions from the ibuprofen tails.

Infrared Spectroscopy: (Nicolet Avatar 320 FTIR). Analysis observed stretching of aromatic C-H at  $2899\text{ cm}^{-1}$ ; N-H bending and scissoring at  $1886\text{ cm}^{-1}$ ;

C=O stretching at  $1679\text{ cm}^{-1}$ ; C-H out-of-plane bending for both 4,4'-bipyridine and ibuprofen at  $808\text{ cm}^{-1}$  and  $628\text{ cm}^{-1}$ .

Differential Scanning Calorimetry: (TA Instruments 2920 DSC), 64.85 degrees C (endotherm) and 118.79 degrees C (endotherm); m.p. = 113-120 degrees C (MEL-TEMP); (ibuprofen m.p. = 75-77 degrees C, 4,4'-bipyridine m.p. = 111-114 degrees C).

Thermogravimetric Analysis: (TA Instruments 2950 Hi-Resolution TGA), 13.28% weight loss between room temperature and 100.02 degrees C immediately followed by complete decomposition.

Powder x-ray diffraction: (Rigaku Miniflex Diffractometer using Cu  $K\alpha$  ( $\lambda = 1.540562$ ), 30kV, 15mA). The powder data were collected over an angular range of  $3^\circ$  to  $40^\circ 2\theta$  in continuous scan mode using a step size of  $0.02^\circ 2\theta$  and a scan speed of  $2.0^\circ/\text{minute}$ . PXRD derived from the single crystal data, experimental (calculated): 3.4 (3.6); 6.9 (7.2); 10.4 (10.8); 17.3 (17.5); 19.1 (19.7).

#### Example 28

Flurbiprofen:4,4'-bipyridine (2:1 stoichiometry)

50 mg (0.2046 mmol) flurbiprofen and 15 mg (0.0960 mmol) 4,4'-bipyridine were dissolved in 3 mL acetone. Slow evaporation of the solvent yielded colorless needles of a 2:1 flurbiprofen/4,4'-bipyridine co-crystal, as shown in Figure 48A-D.

Crystal data: (Bruker SMART-APEX CCD Diffractometer),  $\text{C}_{40}\text{H}_{34}\text{F}_2\text{N}_2\text{O}_4$ ,  $M = 644.69$ , monoclinic  $P2_1/n$ ;  $a = 5.860(4)$ ,  $b = 47.49(3)$ ,  $c = 5.928(4)\text{ \AA}$ ,  $\beta = 107.382(8)^\circ$ ,  $U = 1574.3(19)\text{ \AA}^3$ ,  $T = 200(2)\text{ K}$ ,  $Z = 2$ ,  $\mu(\text{Mo-K}\alpha) = 0.096\text{ mm}^{-1}$ ,  $D_c = 1.360\text{ Mg/m}^3$ ,  $\lambda = 0.71073\text{ \AA}$ ,  $F(000) = 676$ ,  $2\theta_{\text{max}} = 21.69^\circ$ ; 4246 reflections measured, 1634 unique ( $R_{\text{int}} = 0.0677$ ). Final residuals for 226 parameters were  $R_1 = 0.0908$ ,  $wR_2 = 0.2065$  for  $I > 2\sigma(I)$ , and  $R_1 = 0.1084$ ,  $wR_2 = 0.2209$  for all 1634 data.

Crystal packing: The co-crystal contains flurbiprofen/bipyridine heterodimers, sustained by two hydrogen bonded carboxylic acidpyridine supramolecular synthon, arranged in a herringbone motif that packs in the space group  $P2_1/n$ . The heterodimer is an extended version of the homodimer and packs to form a two-dimensional network sustained by  $\pi$ - $\pi$  stacking and hydrophobic interactions of the bipyridine and phenyl groups of the flurbiprofen.

Infrared Spectroscopy: (Nicolet Avatar 320 FTIR), aromatic C-H stretching at  $3057\text{ cm}^{-1}$  and  $2981\text{ cm}^{-1}$ ; N-H bending and scissoring at  $1886\text{ cm}^{-1}$ ; C=O stretching at  $1690\text{ cm}^{-1}$ ; C=C and C=N ring stretching at  $1418\text{ cm}^{-1}$ .

Differential Scanning Calorimetry: (TA Instruments 2920 DSC), 162.47 degrees C (endotherm); m.p. = 155-160 degrees C (MEL-TEMP); (flurbiprofen m.p. = 110-111 degrees C, 4,4'-bipyridine m.p. = 111-114 degrees C).

Thermogravimetric Analysis: (TA Instruments 2950 Hi-Resolution TGA), 30.93% weight loss starting at 31.13 degrees C and a 46.26% weight loss starting at 168.74 degrees C followed by complete decomposition.

Powder x-ray diffraction: (Rigaku Miniflex Diffractometer using Cu K $\alpha$  ( $\lambda = 1.540562$ ), 30kV, 15mA), the powder data were collected over an angular range of  $3^\circ$  to  $40^\circ 2\theta$  in continuous scan mode using a step size of  $0.02^\circ 2\theta$  and a scan speed of  $2.0^\circ/\text{minute}$ . PXRD derived from the single crystal data: experimental (calculated): 16.8 (16.8); 17.1 (17.5); 18.1 (18.4); 19.0 (19.0); 20.0 (20.4); 21.3 (21.7); 22.7 (23.0); 25.0 (25.6); 26.0 (26.1); 26.0 (26.6); 26.1 (27.5); 28.2 (28.7); 29.1 (29.7).

#### Example 29

Flurbiprofen:trans-1,2-bis (4-pyridyl) ethylene (2:1 stoichiometry)

25 mg (0.1023 mmol) flurbiprofen and 10 mg (0.0548 mmol) trans-1, 2-bis (4-pyridyl) ethylene were dissolved in 3 mL acetone. Slow evaporation of the solvent yielded colorless needles of a 2:1 flurbiprofen/1,2-bis (4-pyridyl) ethylene co-crystal, as shown in Figure 49A-B.

Crystal data: (Bruker SMART-APEX CCD Diffractometer),  $\text{C}_{42}\text{H}_{36}\text{F}_2\text{N}_2\text{O}_4$ ,  $M = 670.73$ , monoclinic  $P2_1/n$ ;  $a = 5.8697(9)$ ,  $b = 47.357(7)$ ,  $c = 6.3587(10)\text{ \AA}$ ,  $\beta = 109.492(3)^\circ$ ,  $U = 1666.2(4)\text{ \AA}^3$ ,  $T = 200(2)\text{ K}$ ,  $Z = 2$ ,  $\mu(\text{Mo-K}\alpha) = 0.093\text{ mm}^{-1}$ ,  $D_c = 1.337\text{ Mg/m}^3$ ,  $\lambda = 0.71073\text{ \AA}$ ,  $F(000) = 704$ ,  $2\theta_{\text{max}} = 21.69^\circ$ , 6977 reflections measured, 2383 unique ( $R_{\text{int}} = 0.0383$ ). Final residuals for 238 parameters were  $R_1 = 0.0686$ ,  $wR_2 = 0.1395$  for  $I > 2\sigma(I)$ , and  $R_1 = 0.1403$ ,  $wR_2 = 0.1709$  for all 2383 data.

Crystal packing: The co-crystal contains flurbiprofen/1,2-bis (4-pyridyl) ethylene heterodimers, sustained by two hydrogen bonded carboxylic acid-pyridine supramolecular synthons, arranged in a herringbone motif that packs in the space group  $P2_1/n$ . The heterodimer from 1,2-bis (4-pyridyl) ethylene further extends the homodimer relative to example 28 and packs to form a two-dimensional network

sustained by  $\pi$ - $\pi$  stacking and hydrophobic interactions of the bipyridine and phenyl groups of the flurbiprofen.

Infrared Spectroscopy: (Nicolet Avatar 320 FTIR), aromatic C-H stretching at  $2927\text{ cm}^{-1}$  and  $2850\text{ cm}^{-1}$ ; N-H bending and scissoring at  $1875\text{ cm}^{-1}$ ; C=O stretching at  $1707\text{ cm}^{-1}$ ; C=C and C=N ring stretching at  $1483\text{ cm}^{-1}$ .

Differential Scanning Calorimetry: (TA Instruments 2920 DSC), 100.01 degrees C, 125.59 degrees C and 163.54 degrees C (endotherms); m.p. = 153-158 degrees C (MEL-TEMP); (flurbiprofen m.p. = 110-111 degrees C, trans-1, 2-bis (4-pyridyl) ethylene m.p. = 150-153 degrees C).

Thermogravimetric Analysis: (TA Instruments 2950 Hi-Resolution TGA), 91.79% weight loss starting at 133.18 degrees C followed by complete decomposition.

Powder x-ray diffraction: (Rigaku Miniflex Diffractometer using Cu K $\alpha$  ( $\lambda = 1.540562$ ), 30kV, 15mA), the powder data were collected over an angular range of  $3^\circ$  to  $40^\circ 2\theta$  in continuous scan mode using a step size of  $0.02^\circ 2\theta$  and a scan speed of  $2.0^\circ/\text{minute}$ . PXRD derived from the single crystal data, experimental (calculated): 3.6 (3.7); 17.3 (17.7); 18.1 (18.6); 18.4 (18.6); 19.1 (19.3); 22.3 (22.5); 23.8 (23.9); 25.9 (26.4); 28.1 (28.5).

#### Example 30

Carbamazepine:*p*-Phthalaldehyde (1:1 stoichiometry)

25 mg (0.1058 mmol) carbamazepine and 7 mg (0.0521 mmol) *p*-phthalaldehyde were dissolved in approximately 3 mL methanol. Slow evaporation of the solvent yielded colorless needles of a 1:1 carbamazepine/*p*-phthalaldehyde co-crystal, as shown in Figure 50A-B.

Crystal data: (Bruker SMART-APEX CCD Diffractometer),  $\text{C}_{38}\text{H}_{30}\text{N}_4\text{O}_4$ ,  $M = 606.66$ , monoclinic  $C2/c$ ;  $a = 29.191(16)$ ,  $b = 4.962(3)$ ,  $c = 20.316(11)\text{ \AA}$ ,  $\beta = 92.105(8)^\circ$ ,  $U = 2941(3)\text{ \AA}^3$ ,  $T = 200(2)\text{ K}$ ,  $Z = 4$ ,  $\mu(\text{Mo-K}\alpha) = 0.090\text{ mm}^{-1}$ ,  $D_c = 1.370\text{ Mg/m}^3$ ,  $\lambda = 0.71073\text{ \AA}$ ,  $F(000) = 1272$ ,  $2\theta_{\text{max}} = 43.66^\circ$ , 3831 reflections measured, 1559 unique ( $R_{\text{int}} = 0.0510$ ). Final residuals for 268 parameters were  $R_1 = 0.0332$ ,  $wR_2 = 0.0801$  for  $I > 2\sigma(I)$ , and  $R_1 = 0.0403$ ,  $wR_2 = 0.0831$  for all 1559 data.

Crystal packing: The co-crystals contain hydrogen bonded carboxamide homodimers that crystallize in the space group  $C2/c$ . The 1° amines of the

homodimer are bifurcated to the carbonyl of the *p*-phthalaldehyde forming a chain with an adjacent homodimer. The chains pack in a crinkled tape motif sustained by  $\pi$ - $\pi$  interactions between phenyl rings of the CBZ.

**Infrared Spectroscopy:** (Nicolet Avatar 320 FTIR). The 1° amine unsymmetrical and symmetrical stretching was shifted down to 3418  $\text{cm}^{-1}$ ; aliphatic aldehyde and 1° amide C=O stretching was shifted up to 1690  $\text{cm}^{-1}$ ; N-H in-plane bending at 1669  $\text{cm}^{-1}$ ; C-H aldehyde stretching at 2861  $\text{cm}^{-1}$  and H-C=O bending at 1391  $\text{cm}^{-1}$ .

**Differential Scanning Calorimetry:** (TA Instruments 2920 DSC), 128.46 degrees C (endotherm), m.p. = 121-124 degrees C (MEL-TEMP), (carbamazepine m.p. = 190.2 degrees C, *p*-phthalaldehyde m.p. = 116 degrees C).

**Thermogravimetric Analysis:** (TA Instruments 2950 Hi-Resolution TGA), 17.66% weight loss starting at 30.33 degrees C then a 17.57% weight loss starting at 100.14 degrees C followed by complete decomposition.

**Powder x-ray diffraction:** (Rigaku Miniflex Diffractometer using Cu K $\alpha$  ( $\lambda$  = 1.540562), 30kV, 15mA). The powder data were collected over an angular range of 3° to 40° 2 $\theta$  in continuous scan mode using a step size of 0.02° 2 $\theta$  and a scan speed of 2.0°/minute. PXRD derived from the single crystal data, experimental (calculated): 8.5 (8.7); 10.6 (10.8); 11.9 (12.1); 14.4 (14.7) 15.1 (15.2); 18.0 (18.1); 18.5 (18.2); 19.8 (18.7); 23.7 (24.0); 24.2 (24.2); 26.4 (26.7); 27.6 (27.9); 27.8 (28.2); 28.7 (29.1); 29.3 (29.6); 29.4 (29.8).

### Example 31

Carbamazepine:nicotinamide (Form II) (1:1 stoichiometry)

25 mg (0.1058 mmol) carbamazepine and 12 mg (0.0982 mmol) nicotinamide were dissolved in 4 mL of DMSO, methanol or ethanol. Slow evaporation of the solvent yielded colorless needles of a 1:1 carbamazepine/nicotinamide co-crystal, as shown in Figure 51.

Using a separate method, 25 mg (0.1058 mmol) carbamazepine and 12 mg (0.0982mmol) nicotinamide were ground together with mortar and pestle. The solid was determined to be 1:1 carbamazepine/nicotinamide microcrystals (PXRD).

**Crystal data:** (Bruker SMART-APEX CCD Diffractometer), C<sub>21</sub>H<sub>18</sub>N<sub>4</sub>O<sub>2</sub>, M = 358.39, monoclinic *P*2<sub>1</sub>/*n*; a = 5.0961(8), b = 17.595(3), c = 19.647(3) Å,  $\beta$  = 90.917(3)°, *U* = 1761.5(5) Å<sup>3</sup>, T = 200(2) K, Z = 4,  $\mu$ (Mo-K $\alpha$ ) = 0.090 mm<sup>-1</sup>,

$D_c = 1.351 \text{ Mg/m}^3$ ,  $\lambda = 0.71073 \text{ \AA}$ ,  $F(000) = 752$ ,  $2\theta_{\text{max}} = 56.60^\circ$ , 10919 reflections measured, 4041 unique ( $R_{\text{int}} = 0.0514$ ). Final residuals for 248 parameters were  $R_1 = 0.0732$ ,  $wR_2 = 0.1268$  for  $I > 2\sigma(I)$ , and  $R_1 = 0.1161$ ,  $wR_2 = 0.1430$  for all 4041 data.

**Crystal packing:** The co-crystals contain hydrogen bonded carboxamide homodimers. The 1° amines are bifurcated to the carbonyl of the nicotinamide on each side of the dimer. The 1° amines of each nicotinamide are hydrogen bonded to the carbonyl of the adjoining dimer. The dimers form chains with  $\pi$ - $\pi$  interactions from the phenyl groups of the CBZ.

**Infrared Spectroscopy:** (Nicolet Avatar 320 FTIR), unsymmetrical and symmetrical stretching shifts down to  $3443 \text{ cm}^{-1}$  and  $3388 \text{ cm}^{-1}$  accounting for 1° amines; 1° amide C=O stretching at  $1690 \text{ cm}^{-1}$ ; N-H in-plane bending at  $1614 \text{ cm}^{-1}$ ; C=C stretching shifted down to  $1579 \text{ cm}^{-1}$ ; aromatic H's from  $800 \text{ cm}^{-1}$  to  $500 \text{ cm}^{-1}$  are present.

**Differential Scanning Calorimetry:** (TA Instruments 2920 DSC), 74.49 degrees C (endotherm) and 159.05 degrees C (endotherm), m.p. = 153-158 degrees C (MEL-TEMP), (carbamazepine m.p. = 190.2 degrees C, nicotinamide m.p. = 150-160 degrees C).

**Thermogravimetric Analysis:** (TA Instruments 2950 Hi-Resolution TGA), 57.94% weight loss starting at 205.43 degrees C followed by complete decomposition.

**Powder x-ray diffraction:** (Rigaku Miniflex Diffractometer using Cu K $\alpha$  ( $\lambda = 1.540562$ ), 30kV, 15mA). The powder data were collected over an angular range of  $3^\circ$  to  $40^\circ 2\theta$  in continuous scan mode using a step size of  $0.02^\circ 2\theta$  and a scan speed of  $2.0^\circ/\text{minute}$ . PXRD: Showed analogous peaks to the simulated PXRD derived from the single crystal data. PXRD analysis experimental (calculated): 6.5 (6.7); 8.8 (9.0); 10.1 (10.3); 13.2 (13.5); 15.6 (15.8); 17.7 (17.9); 17.8 (18.1); 18.3 (18.6); 19.8 (20.1); 20.4 (20.7); 21.6 (22.); 22.6 (22.8); 22.9 (23.2); 26.4 (26.7); 26.7 (27.0); 28.0 (28.4).

### Example 32

Carbamazepine:saccharin (Form II) (1:1 stoichiometry)

25 mg (0.1058mmol) carbamazepine and 19 mg (0.1037 mmol) saccharin were dissolved in approximately 4 mL ethanol. Slow evaporation of the solvent

yielded colorless needles of a 1:1 carbamazepine/saccharin cocrystal, as shown in Figure 52. Solubility measurements indicate that this multiple-component crystal of carbamazepine has improved solubility over previously known forms of carbamazepine (e.g., increased molar solubility and longer solubility in aqueous solutions).

Crystal data: (Bruker SMART-APEX CCD Diffractometer),  $C_{22}H_{17}N_3O_4S_1$ ,  $M = 419.45$ , triclinic  $P-1$ ;  $a = 7.5140(11)$ ,  $b = 10.4538(15)$ ,  $c = 12.6826(18)$  Å,  $\alpha = 83.642(2)^\circ$ ,  $\beta = 85.697(2)^\circ$ ,  $\gamma = 75.411(2)^\circ$ ,  $U = 957.0(2)$  Å<sup>3</sup>,  $T = 200(2)$  K,  $Z = 2$ ,  $\mu(\text{Mo-K}\alpha) = 0.206$  mm<sup>-1</sup>,  $D_c = 1.456$  Mg/m<sup>3</sup>,  $\lambda = 0.71073$  Å,  $F(000) = 436$ ,  $2\theta_{\text{max}} = 56.20^\circ$ ; 8426 reflections measured, 4372 unique ( $R_{\text{int}} = 0.0305$ ). Final residuals for 283 parameters were  $R_1 = 0.0458$ ,  $wR_2 = 0.1142$  for  $I > 2\sigma(I)$ , and  $R_1 = 0.0562$ ,  $wR_2 = 0.1204$  for all 4372 data.

Crystal packing: The co-crystals contain hydrogen bonded carboxamide homodimers. The 2° amines of the saccharin are hydrogen bonded to the carbonyl of the CBZ on each side forming a tetramer. The crystal has a space group of  $P-1$  with  $\pi$ - $\pi$  interactions between the phenyl groups of the CBZ and the saccharin phenyl groups.

Infrared Spectroscopy: (Nicolet Avatar 320 FTIR), unsymmetrical and symmetrical stretching shifts up to 3495 cm<sup>-1</sup> accounting for 1° amines; C=O aliphatic stretching was shifted up to 1726 cm<sup>-1</sup>; N-H in-plane bending at 1649 cm<sup>-1</sup>; C=C stretching shifted down to 1561 cm<sup>-1</sup>; (O=S=O) sulfonyl peak at 1330 cm<sup>-1</sup> C-N aliphatic stretching 1175 cm<sup>-1</sup>.

Differential Scanning Calorimetry: (TA Instruments 2920 DSC), 75.31 degrees C (endotherm) and 177.32 degrees C (endotherm), m.p. = 148-155 degrees C (MEL-TEMP); (carbamazepine m.p. = 190.2 degrees C, saccharin m.p. = 228.8 degrees C).

Thermogravimetric Analysis: (TA Instruments 2950 Hi-Resolution TGA), 3.342% weight loss starting at 67.03 degrees C and a 55.09% weight loss starting at 118.71 degrees C followed by complete decomposition.

Powder x-ray diffraction: (Rigaku Miniflex Diffractometer using Cu K $\alpha$  ( $\lambda = 1.540562$ ), 30kV, 15mA). The powder data were collected over an angular range of 3° to 40° 2 $\theta$  in continuous scan mode using a step size of 0.02° 2 $\theta$  and a scan speed of 2.0°/minute. PXRD derived from the single crystal data, experimental (calculated):



6.9 (7.0); 12.2 (12.2); 13.6 (13.8); 14.0 (14.1); 14.1 (14.4); 15.3 (15.6); 15.9 (15.9);  
18.1 (18.2); 18.7 (18.8); 20.2 (20.3); 21.3 (21.5); 23.7 (23.9); 26.3 (26.4); 28.3 (28.3).

### Example 33

Carbamazepine:2,6-pyridinedicarboxylic acid (2:3 stoichiometry)

36 mg (0.1524 mmol) carbamazepine and 26 mg (0.1556 mmol) 2,6-pyridinedicarboxylic acid were dissolved in approximately 2 mL ethanol. Slow evaporation of the solvent yielded clear needles of a 1:1 carbamazepine/2,6-pyridinedicarboxylic acid co-crystal, as shown in Figure 54A-B.

Crystal data: (Bruker SMART-APEX CCD Diffractometer).  $C_{22}H_{17}N_3O_5$ ,  $M=403.39$ , orthorhombic  $P2(1)2(1)2(1)$ ;  $a=7.2122$ ,  $b=14.6491$ ,  $c=17.5864$  Å,  $\alpha=90^\circ$ ,  $\beta=90^\circ$ ,  $\gamma=90^\circ$ ,  $V=1858.0(2)$  Å<sup>3</sup>,  $T=100$  K,  $Z=4$ ,  $\mu(MO-K\alpha)=0.104$  mm<sup>-1</sup>,  $D_c=1.442$  Mg/m<sup>3</sup>,  $\lambda=0.71073$  Å,  $F(000)840$ ,  $2\theta_{max}=28.3$ . 16641 reflections measured, 4466 unique ( $R_{int}=0.093$ ). Final residuals for 271 parameters were  $R_1=0.0425$  and  $wR_2=0.0944$  for  $I>2\sigma(I)$ .

Crystal packing: Each hydrogen on the CBZ 1° amine is hydrogen bonded to a carbonyl group of a different 2,6-pyridinedicarboxylic acid moiety. The carbonyl of the CBZ carboxamide is hydrogen bonded to two hydroxide groups of one 2,6-pyridinedicarboxylic acid moiety.

Infrared Spectroscopy: (Nicolet Avatar 320 FTIR). 3439 cm<sup>-1</sup>, (N-H stretch, 1° amine, CBZ); 1734 cm<sup>-1</sup>, (C=O); 1649 cm<sup>-1</sup>, (C=C).

Melting Point: 214-216 degrees C (MEL-TEMP). (carbamazepine m.p. = 191-192 degrees C, 2,6-pyridinedicarboxylic acid m.p. = 248-250 degrees C).

Thermogravimetric Analysis: (TA Instruments 2950 Hi-Resolution TGA). 69% weight loss starting at 215 degrees C and a 17% weight loss starting at 392 degrees C followed by complete decomposition.

### Example 34

Carbamazepine:5-nitroisophthalic acid (1:1 stoichiometry)

40 mg (0.1693 mmol) carbamazepine and 30 mg (0.1421 mmol) 5-nitroisophthalic acid were dissolved in approximately 3 mL methanol or ethanol. Slow evaporation of the solvent yielded yellow needles of a 1:1 carbamazepine/5-nitroisophthalic acid co-crystal, as shown in Figure 55A-B.

Crystal data: (Bruker SMART-APEX CCD Diffractometer).  $C_{47}H_{40}N_6O_{16}$ ,  $M=944.85$ , monoclinic  $C2/c$ ;  $a=34.355(8)$ ,  $b=5.3795(13)$ ,  $c=23.654(6)$  Å,  $\alpha=90^\circ$ ,  $\beta=93.952(6)^\circ$ ,  $\gamma=90^\circ$ ,  $V=4361.2(18)$  Å<sup>3</sup>,  $T=200(2)$  K,  $Z=4$ ,  $\mu(MO-K\alpha)=0.110$  mm<sup>-1</sup>,  $D_c=1.439$  Mg/m<sup>3</sup>,  $\lambda=0.71073$  Å,  $F(000)1968$ ,  $2\theta_{max}=26.43^\circ$ . 11581 reflections measured, 4459 unique ( $R_{int}=0.0611$ ). Final residuals for 311 parameters were  $R_1=0.0725$ ,  $wR_2=0.1801$  for  $I>2\sigma(I)$ , and  $R_1=0.1441$ ,  $wR_2=0.1204$  for all 4459 data.

Crystal packing: The co-crystals are sustained by hydrogen bonded carboxylic acid homodimers between the two 5-nitroisophthalic acid moieties and hydrogen bonded carboxy-amide heterodimers between the carbamazepine and 5-nitroisophthalic acid moiety. There is solvent hydrogen bonded to an additional N-H donor from the carbamazepine moiety.

Infrared Spectroscopy: (Nicolet Avatar 320 FTIR).  $3470$  cm<sup>-1</sup>, (N-H stretch, 1° amine, CBZ);  $3178$  cm<sup>-1</sup>, (C-H stretch, alkene);  $1688$  cm<sup>-1</sup>, (C=O);  $1602$  cm<sup>-1</sup>, (C=C).

Differential Scanning Calorimetry: (TA Instruments 2920 DSC).  $190.51$  degrees C (endotherm). m.p. = NA (decomposes at  $197-200$  degrees C) (MEL-TEMP). (carbamazepine m.p. =  $191-192$  degrees C, 5-nitroisophthalic acid m.p. =  $260-261$  degrees C).

Thermogravimetric Analysis: (TA Instruments 2950 Hi-Resolution TGA).  $32.02\%$  weight loss starting at  $202$  degrees C, a  $12.12\%$  weight loss starting at  $224$  degrees C and a  $17.94\%$  weight loss starting at  $285$  degrees C followed by complete decomposition.

Powder x-ray diffraction: (Rigaku Miniflex Diffractometer using  $CuK\alpha$  ( $\lambda=1.540562$ ),  $30$  kV,  $15$  mA). The powder data were collected over an angular range of  $3$  to  $40.2$  in continuous scan mode using a step size of  $0.02^\circ$  and a scan speed of  $2.0$  /min. PXRD: Showed analogous peaks to the simulated PXRD derived from the single crystal data. PXRD analysis experimental (calculated):  $10.138$  ( $10.283$ ),  $15.291$  ( $15.607$ ),  $17.438$  ( $17.791$ ),  $21.166$  ( $21.685$ ),  $31.407$  ( $31.738$ ),  $32.650$  ( $32.729$ ).

### Example 35

Carbamazepine:1,3,5,7-adamantane tetracarboxylic acid (1:1 stoichiometry)

$15$  mg ( $0.1524$  mmol) carbamazepine and  $20$  mg ( $0.1556$  mmol) 1,3,5,7-adamantanetetracarboxylic acid were dissolved in approximately  $1$  mL methanol or 1

mL ethanol. Slow evaporation of the solvent yields clear plates of a 2:1 carbamazepine/1,3,5,7-adamantanetetracarboxylic acid co-crystal, as shown in Figure 56A-B.

Crystal data: (Bruker SMART-APEX CCD Diffractometer).  $C_{44}H_{40}N_2O_{10}$ ,  $M=784.80$ , monoclinic  $C2/c$ ;  $a=18.388(4)$ ,  $b=12.682(3)$ ,  $c=16.429(3)$  Å,  $\beta=100.491(6)^\circ$ ,  $V=3767.1(14)$  Å<sup>3</sup>,  $T=100(2)$  K,  $Z=4$ ,  $\mu(MO-K\alpha)=0.099$  mm<sup>-1</sup>,  $D_c=1.384$  Mg/m<sup>3</sup>,  $\lambda=0.71073$  Å,  $F(000)1648$ ,  $2\theta_{max}=28.20^\circ$ . 16499 reflections measured, 4481 unique ( $R_{int}=0.052$ ). Final residuals for 263 parameters were  $R_1=0.0433$  and  $wR_2=0.0913$  for  $I>2\sigma(I)$ .

Crystal packing: The co-crystals form a single 3D network of four tetrahedron, linked by square planes similar to the *PtS* topology. The crystals are sustained by hydrogen bonding.

Infrared Spectroscopy: (Nicolet Avatar 320 FTIR). 3431 cm<sup>-1</sup>, (N-H stretch, 1° amine, CBZ); 3123 cm<sup>-1</sup>, (C-H stretch, alkene); 1723 cm<sup>-1</sup>, (C=O); 1649 cm<sup>-1</sup>, (C=C).

Melting Point: (MEL-TEMP). 258-260 degrees C (carbamazepine m.p. = 191-192 degrees C, adamantanetetracarboxylic acid m.p. = >390 degrees C).

Thermogravimetric Analysis: (TA Instruments 2950 Hi-Resolution TGA). 9% weight loss starting at 189 degrees C, a 52% weight loss starting at 251 degrees C and a 31% weight loss starting at 374 degrees C followed by complete decomposition.

#### Example 36

Carbamazepine:benzoquinone (1:1 stoichiometry)

25 mg (0.1058 mmol) carbamazepine and 11 mg (0.1018 mmol) benzoquinone was dissolved in 2 mL methanol or THF. Slow evaporation of the solvent produced an average yield of yellow crystals of a 1:1 carbamazepine/benzoquinone co-crystal, as shown in Figure 57A-B.

Crystal data: (Bruker SMART-APEX CCD Diffractometer).  $C_{21}H_{16}N_2O_3$ ,  $M=344.36$ , monoclinic  $P2(1)/c$ ;  $a=10.3335(18)$ ,  $b=27.611(5)$ ,  $c=4.9960(9)$  Å,  $\beta=102.275(3)^\circ$ ,  $V=1392.9(4)$  Å<sup>3</sup>,  $T=100(2)$  K,  $Z=3$ ,  $D_c=1.232$  Mg/m<sup>3</sup>,  $\mu(MO-K\alpha)=0.084$  mm<sup>-1</sup>,  $\lambda=0.71073$  Å,  $F(000)540$ ,  $2\theta_{max}=28.24^\circ$ . 8392 reflections measured,

3223 unique ( $R_{\text{int}}=0.1136$ ). Final residuals for 199 parameters were  $R_1=0.0545$  and  $wR_2=0.1358$  for  $I>2\sigma(I)$ , and  $R_1=0.0659$  and  $wR_2=0.1427$  for all 3223 data.

**Crystal packing:** The co-crystals contain hydrogen bonded carboxamide homodimers. Each 1° amine on the CBZ is bifurcated to a carbonyl group of a benzoquinone moiety. The dimers form infinite chains.

**Infrared Spectroscopy:** (Nicolet Avatar 320 FTIR).  $3420\text{ cm}^{-1}$ , (N-H stretch, 1° amine, CBZ);  $2750\text{ cm}^{-1}$ , (aldehyde stretch);  $1672\text{ cm}^{-1}$ , (C=O);  $1637\text{ cm}^{-1}$ , (C=C, CBZ).

**Melting Point:** 170 degrees C (MEL-TEMP). (carbamazepine m.p. = 191-192 degrees C, benzoquinone m.p. = 115.7 degrees C).

**Thermogravimetric Analysis:** (TA Instruments 2950 Hi-Resolution TGA). 20.62% weight loss starting at 168 degrees C and a 78% weight loss starting at 223 degrees C followed by complete decomposition.

#### Example 37

**Carbamazepine:trimesic acid (Form II) (1:1 stoichiometry)**

36 mg (0.1524 mmol) carbamazepine and 31 mg (0.1475 mmol) trimesic acid were dissolved in a solvent mixture of approximately 2 mL methanol and 2 mL dichloromethane. Slow evaporation of the solvent mixture yielded white starbursts of a 1:1 carbamazepine/trimesic acid co-crystal, as shown in Figure 58A-B.

**Crystal data:** (Bruker SMART-APEX CCD Diffractometer).  $\text{C}_{24}\text{H}_{18}\text{N}_2\text{O}_7$ ,  $M=446.26$ , monoclinic  $C2/c$ ;  $a=32.5312(50)$ ,  $b=5.2697(8)$ ,  $c=24.1594(37)\text{ \AA}$ ,  $\alpha=90^\circ$ ,  $\beta=98.191(3)^\circ$ ,  $\gamma=90^\circ$ ,  $V=4099.39(37)\text{ \AA}^3$ ,  $T=-173\text{ K}$ ,  $Z=8$ ,  $\mu(\text{MO-K}\alpha)=0.110\text{ mm}^{-1}$ ,  $D_c=1.439\text{ Mg/m}^3$ ,  $\lambda=0.71073\text{ \AA}$ ,  $F(000)1968$ ,  $2\theta_{\text{max}}=26.43^\circ$ . 11581 reflections measured, 4459 unique ( $R_{\text{int}}=0.0611$ ). Final residuals for 2777 parameters were  $R_1=0.1563$ ,  $wR_2=0.1887$  for  $I>2\sigma(I)$ , and  $R_1=0.1441$ ,  $wR_2=0.1204$  for all 3601 data.

**Crystal packing:** The co-crystals are sustained by hydrogen bonded carboxylic acid homodimers between carbamazepine and trimesic acid moieties and hydrogen bonded carboxylic acid-amine heterodimers between two trimesic acid moieties arranged in a stacked ladder formation.

**Infrared Spectroscopy:** (Nicolet Avatar 320 FTIR).  $3486\text{ cm}^{-1}$  (N-H stretch, 1° amine, CBZ);  $1688\text{ cm}^{-1}$  (C=O, 1° amide stretch, CBZ);  $1602\text{ cm}^{-1}$  (C=C, CBZ).

Differential Scanning Calorimetry: (TA Instruments 2920 DSC). 273 degrees C (endotherm). m.p. = NA, decomposes at 278 degrees C (MEL-TEMP). (carbamazepine m.p. = 191-192 degrees C, trimesic acid m.p. = 380 degrees C)

Thermogravimetric Analysis: (TA Instruments 2950 Hi-Resolution TGA). 62.83% weight loss starting at 253 degrees C and a 30.20% weight loss starting at 278 degrees C followed by complete decomposition.

Powder x-ray diffraction: (Rigaku Miniflex Diffractometer using CuK $\alpha$  ( $\lambda$ =1.540562), 30kV, 15mA). The powder data were collected over an angular range of 3 to 40 2 in continuous scan mode using a step size of 0.02 2 and a scan speed of 2.0 /min. PXRD analysis experimental: 10.736, 12.087, 16.857, 24.857, 27.857.

<b>Table V. Detailed Characterization of Co-Crystals</b>	
All PXRD peaks are in units of degrees 2-theta All Raman shifts are in units of cm <sup>-1</sup>	
<b>Carbamazepine: Saccharin</b> PXRD (Form I): 7.01, 12.07, 14.09, 15.41, 18.47, 20.13, 22.01, 23.57, 24.41, 28.31 (Fig. 1) PXRD (Form II): 6.9, 12.2, 13.6, 14.0, 14.1, 15.3, 15.9, 18.1, 18.7, 20.2, 21.3, 23.7, 26.3, 28.3 DSC (Form I): Broad endotherm at 161.9 degrees C (Fig. 2) TGA (Form I): Decomposition above 200 degrees C DSC (Form II): Endothermic transitions at 75.31 and 177.32 degrees C TGA (Form II): 3.342 percent weight loss starting at 67.03 degrees C, 55.09 percent weight loss starting at 118.71 degrees C, followed by decomposition Method: CMAX	
<b>Carbamazepine: Nicotinamide</b> PXRD (Form I): 4.97, 6.67, 8.75, 10.25, 13.25, 17.91, 18.49, 19.95, 20.49, 22.73, 24.39, 26.49 (Fig. 3) PXRD (Form II): 6.5, 8.8, 10.1, 13.2, 15.6, 17.7, 17.8, 18.3, 19.8, 20.4, 21.6, 22.6, 22.9, 26.4, 26.7, 28.0 DSC (Form I): Sharp endotherm at 156.9 degrees C (Fig. 4) TGA (Form I): Decomposition beginning at ~150 degrees C DSC (Form II): Endothermic transitions at 74.49 and 159.05 degrees C TGA (Form II): 57.94 percent weight loss starting at 205.43 degrees C, followed by decomposition Method: CMAX	
<b>Carbamazepine: Trimesic acid</b> PXRD (Form I): 10.89, 12.23, 14.83, 16.25, 17.05, 18.13, 18.47, 21.47, 21.95, 24.57, 25.11, 27.99 (Fig. 5) PXRD (Form II): 10.74, 12.09, 16.86, 24.86, 27.86 DSC (Form II): Endothermic transition at 273 degrees C TGA (Form II): 62.83 percent weight loss starting at 253 degrees C, 30.20 percent	

weight loss starting at 278 degrees C, followed by decomposition Method: CMAX
Celecoxib: Nicotinamide PXRD: 3.77, 7.56, 9.63, 14.76, 15.21, 16.01, 17.78, 18.68, 19.31, 20.44, 21.19, 22.10 DSC: Two endothermic transitions at 117.2 and 118.8 degrees C and a sharp endotherm at 129.7 degrees C TGA: Decomposition beginning at ~150 degrees C Raman: 1617.5, 1598.7, 1452.1, 1370.3, 1162.5, 1044.3, 972.9, 796.4, 631.8, 392.5, 205.9 Method: Slow evaporation of a 1:1 solution from acetone
Topiramate: 18-Crown-6 PXRD: 10.79, 11.07, 12.17, 13.83, 16.13, 18.03, 18.51, 18.79, 19.21, 21.43, 22.25, 24.11 (Fig. 6) DSC: Sharp endotherm at 134.7 degrees C, followed by an exotherm at 203 degrees C (Fig. 7) TGA: Rapid decomposition beginning at ~ 135 degrees C and leveling off slightly after 200 degrees C Raman: 2994.5, 2942.7, 1471.6, 1427.4, 1261.7, 849.4, 804.5, 745.1, 629.2, 280.4, 225.9 Method: Addition of an ether solution containing 1 equivalent of topiramate to an ether solution containing 18-crown-6. Product precipitated following minor agitation of the combined mixture and was collected.
Olanzapine: Nicotinamide PXRD (Form I): 4.89, 8.65, 12.51, 14.19, 15.59, 17.15, 19.71, 21.05, 23.95, 24.59, 25.53, 26.71 (Fig. 8) PXRD (Form II): 6.41, 12.85, 18.67, 21.85, 24.37 (Fig. 30) PXRD (Form III): 6.41, 12.85, 14.91, 18.67, 21.85, 24.37 (Fig. 31) DSC (Form I): Slightly broad endotherm at 126.1 degrees C (Fig. 9) Method: See above
Celecoxib: 18-Crown-6 PXRD: 8.73, 11.89, 12.57, 13.13, 15.01, 16.37, 17.03, 17.75, 18.45, 20.75, 22.37, 23.11, 24.33, 24.97, 26.61, 28.15 (Fig. 10) DSC: Sharp endotherm at 189.6 degrees C (Fig. 11) TGA: Decomposition above 200 degrees C with a 25% weight loss between ~190-210 degrees C Method: A solution containing one equivalent of celecoxib in ether was added to a solution containing 18-crown-6. A white solid formed immediately and was collected.
Itraconazole: Succinic Acid PXRD: 3.0, 6.0, 8.1, 9.0, 17.1, 24.5 (Fig. 12) DSC: Single endothermic transition at 160.1 degrees C $\pm$ 1.0 degrees C (Fig. 13) TGA: Less than 0.1 % volatile components by weight Method: See above
Itraconazole: Fumaric Acid PXRD: 4.6, 5.9, 9.2, 10.6, 19.1, 20.8 (Fig. 14) DSC: The material had a weak endothermic transition at 141.7 degrees C and a strong endothermic transition at 179.58 degrees C (Fig. 15) TGA: The sample loses 0.5 % of its weight on the TGA between room temperature and 100 degrees C Method:

<p>Itraconazole: Tartaric Acid  PXRD: 4.1, 6.2, 8.3, 20.7, 25.6, 26.3 (Fig. 16)  DSC: An endothermic transition at 180.74 degrees C (Fig. 17)  TGA: Less than 0.1 % volatile components by weight by TGA.  Method: See above</p>
<p>Itraconazole: Malic acid  PXRD: 4.4, 5.9, 8.8, 17.7, 20.0, 21.1, 22.6 (Fig. 18)  DSC: The sample has a strong endothermic transition at 154.36 degrees C (Fig. 19)  TGA: The sample contained less than 0.1% volatile components by weight  Method: See above</p>
<p>ItraconazoleHCl: Tartaric acid  PXRD: 3.7, 11.0, 13.8, 16.5, 17.8 (Fig. 20)  DSC: The sample has a peak endothermic transition at 161degrees C (Fig. 21)  TGA: The sample contained less than 0.1 % volatile components by weight  Method: See above</p>
<p>Modafinil: Malonic acid  PXRD: 5.00, 9.17, 16.81, 18.26, 19.43, 21.36, 21.94, 22.77, 24.49, 25.63, 28.45 (Fig. 22)  DSC: Endothermic transition at 106.23 degrees C (Fig. 40)  Raman: 1601, 1183, 1032, 1004, 814, 633, 265, 222 (Fig. 42)  Method: See above</p>
<p>Modafinil: Benzamide  PXRD: 5.11, 9.35, 10.25, 10.79, 14.07, 16.87, 18.33, 19.53, 21.38, 22.05, 22.89, 23.57, 24.73, 25.19, 25.81, 26.51, 28.60 (Fig. 23)  Method: Slow evaporation from a 1:1 solution in 1,2-dichloroethane</p>
<p>Modafinil: Mandelic acid  PXRD: 6.11, 6.75, 9.53, 10.31, 14.77, 15.77, 16.99, 18.03, 20.01, 21.61, 22.47, 23.27, 25.27, 25.75, 27.23 (Fig. 24)  Method: Slow evaporation from a 1:1 solution in acetone</p>
<p>Modafinil: Glycolic acid  PXRD: 6.09, 9.51, 14.91, 15.97, 19.01, 20.03, 21.59, 22.43, 22.75, 23.75, 25.03, 25.71 (Fig. 25)  Method: Slow evaporation from a 1:1 solution in acetone</p>
<p>Modafinil: Fumaric acid  PXRD: 5.87, 7.19, 8.95, 12.49, 13.99, 16.13, 17.09, 18.19, 19.99, 21.57, 23.48, 25.01, 25.79, 28.17, 28.87, 29.69, 32.19 (Fig. 26)  Method: Slow evaporation from a 1:1 solution in 1,2-dichloroethane</p>
<p>Modafinil: Maleic acid  PXRD: 4.69, 6.15, 9.61, 10.23, 15.65, 16.53, 17.19, 18.01, 19.27, 19.53, 19.97, 21.83, 22.45, 25.65 (Fig. 43)  Method: See above</p>
<p>5-fluorouracil: Urea  PXRD: 11.23, 12.69, 13.27, 15.93, 16.93, 20.37, 23.65, 25.55, 26.87, 32.49 (Fig. 36)  DSC: Sharp endotherm at 207.6 degrees C (Fig. 33)  TGA: 32 percent weight loss between 150 and 220 degrees C (Fig. 34)  Raman: 1347.1, 1024.4, 756.9, 643.7, 545.3 (Fig. 35)  Method: See above</p>
<p>Hydrochlorothiazide: Nicotinic acid  PXRD: 8.57, 13.23, 14.31, 16.27, 17.89, 18.75, 21.13, 21.45, 24.41, 25.73, 26.57, 27.43 (Fig. 37)</p>

Method: See above
Hydrochlorothiazide: 18-crown-6 PXRD: 9.97, 10.43, 11.57, 11.81, 12.83, 14.53, 15.67, 16.61, 19.05, 20.31, 20.65, 21.09, 21.85, 22.45, 23.63, 24.21, 25.33, 26.73 (Fig. 38) Method: See above
Hydrochlorothiazide: piperazine PXRD: 6.85, 13.75, 15.93, 18.71, 20.67, 20.93, 23.27, 24.17, 28.33, 28.87, 30.89 (Fig. 39) Method: See above
Acetaminophen: 4,4'-bipyridine:water DSC: Endothermic transition at 57.77 degrees C Method: See above
Phenytoin: Pyridone PXRD: 5.2, 11.1, 15.1, 16.2, 16.7, 17.8, 19.4, 19.8, 20.3, 21.2, 23.3, 26.1, 26.4, 27.3, 29.5 DSC: Endothermic transitions at 233.39 and 271.33 degrees C TGA: 29.09 percent weight loss starting at 192.8 degrees C, 48.72 percent weight loss starting at 238.27 degrees C, 18.38 percent weight loss starting at 260.17 degrees C, followed by decomposition Method: See above
Aspirin: 4,4'-bipyridine DSC: Endothermic transition at 95.14 degrees C TGA: 9 percent weight loss starting at 22.62 degrees C, 49.06 percent weight loss starting at 102.97 degrees C, decomposition starting at 209.37 degrees C Method: See above
Ibuprofen: 4,4'-bipyridine PXRD: 3.4, 6.9, 10.4, 17.3, 19.1 DSC: Endothermic transitions at 64.85 and 118.79 degrees C TGA: 13.28 percent weight loss between room temperature and 100.02 degrees C followed by decomposition Method: See above
Flurbiprofen: 4,4'-bipyridine PXRD: 16.8, 17.1, 18.1, 19.0, 20.0, 21.3, 22.7, 25.0, 26.0, 26.0, 26.1, 28.2, 29.1 DSC: Endothermic transition at 162.47 degrees C TGA: 30.93 percent weight loss starting at 31.13 degrees C, 46.26 percent weight loss starting at 168.74 degrees C, followed by decomposition Method: See above
Flurbiprofen:trans-1,2-bis (4-pyridyl) ethylene PXRD: 3.6, 17.3, 18.1, 18.4, 19.1, 22.3, 23.8, 25.9, 28.1 DSC: Endothermic transitions at 100.01, 125.59, and 163.54 degrees C TGA: 91.79 percent weight loss starting at 133.18 degrees C followed by decomposition Method: See above
Carbamazepine: p-phthalaldehyde PXRD: 8.5, 10.6, 11.9, 14.4, 15.1, 18.0, 18.5, 19.8, 23.7, 24.2, 26.4, 27.6, 27.8, 28.7, 29.3, 29.4 DSC: Endothermic transition at 128.46 degrees C TGA: 17.66 percent weight loss starting at 30.33 degrees C, 17.57 percent weight loss starting at 100.14 degrees C, followed by decomposition Method: See above



<p>Carbamazepine: 2,6-pyridinecarboxylic acid  TGA: 69 percent weight loss starting at 215 degrees C, 17 percent weight loss starting at 392 degrees C, followed by decomposition  Method: See above</p>
<p>Carbamazepine: 5-nitroisophthalic acid  PXRD: 10.14, 15.29, 17.44, 21.17, 31.41, 32.65  TGA: 32.02 percent weight loss starting at 202 degrees C, 12.12 percent weight loss starting at 224 degrees C, 17.94 percent weight loss starting at 285 degrees C, followed by decomposition  Method: See above</p>
<p>Carbamazepine: 1,3,5,7-adamantane tetracarboxylic acid  TGA: 9 percent weight loss starting at 189 degrees C, 52 percent weight loss starting at 251 degrees C, 31 percent weight loss starting at 374 degrees C, followed by decomposition  Method: See above</p>
<p>Carbamazepine: Benzoquinone  TGA: 20.62 percent weight loss starting at 168 degrees C, 78 percent weight loss starting at 223 degrees C, followed by decomposition  Method: See above</p>

#### Example 38

A co-crystal with a modulated dissolution profile has been prepared. Celecoxib: nicotinamide co-crystals were prepared via methods shown in example 4. (See Fig. 27)

#### Example 39

A co-crystal with a modulated dissolution profile has been prepared. Itraconazole: succinic acid, itraconazole:tartaric acid and itraconazole:malic acid co-crystals were prepared via methods shown in examples 8, 10 and 11. (See Fig. 28)

#### Example 40

A co-crystal of an unsaltable or difficult to salt API has been prepared. Celecoxib: nicotinamide co-crystals were prepared via methods shown in example 4.

#### Example 41

A co-crystal with an improved hygroscopicity profile has been prepared. Celecoxib: nicotinamide co-crystals were prepared via methods shown in example 4. (See Fig. 29)

**Example 42**

A co-crystal with reduced form diversity as compared to the API has been prepared.

Co-crystals of carbamazepine and saccharin have been prepared via method shown in example 1.

TABLE I

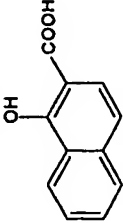
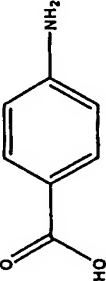
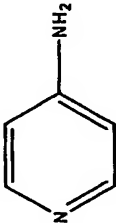
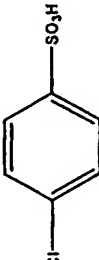
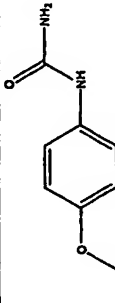
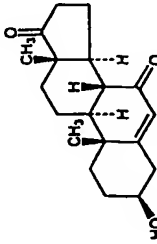
Co-Crystal Former	MW (g/mol)	MP (°C)	Class	Functionality	# acceptors	# donors	Molecular Structure	pKa Values
1-Hydroxy-2-naphthoic acid	188.18	191-192	2	Carboxylic acid, alcohol	1	2		2.7, 13.5
4-aminobenzoic acid	137.14	187-188	2	Amine, carboxylic acid	1	3		4.7, 4.8
4-aminopyridine	94.11	158-159	3	Amine, pyridine	1	2		10
4-Chlorobenzene- sulfonic acid	192.63	67	1	SO <sub>3</sub> H	3	1		0-1
4-ethoxyphenyl urea	180.2	173-174	3	Amide, NH	2	3		~7-9
7-oxo-DHEA	303	190-192	1	Alcohol, Ketone	3	1		

TABLE I

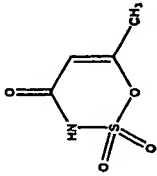
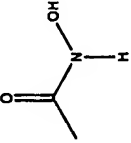
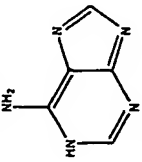
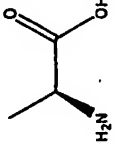
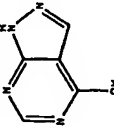
Co-Crystal Former	MW (g/mol)	MP (°C)	Class	Functionality	# acceptors	# donors	Molecular Structure	pKa Values
Acesulfame	163.15	123-124	3	SO <sub>2</sub> , Amide	4	1		~5-7
Acetohydroxamic acid	75.07	89-92	3	Amide, NH, OH	2	2		8.7
Adenine	135.13	220 (sub.)	1	Amine, NH	3	3		3.8
Adipic Acid	146.14	152	1	Carboxylic acid	2	2	HOOC(CH <sub>2</sub> ) <sub>4</sub> COOH	4.44, 5.44
Alanine	89.09	289-291	1	Amine, carboxilic acid	1	3		2.35, 9.87
Allopurinol	136.11	> 350	3	OH, NH	4	2		10.2

TABLE I

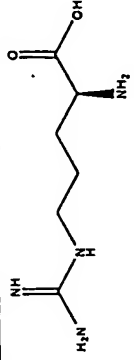
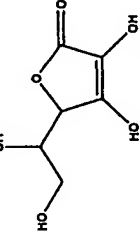
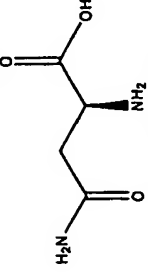
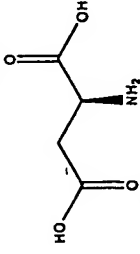
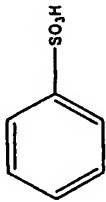
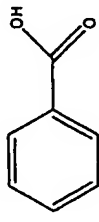
Co-Crystal Former	MW (g/mol)	MP (°C)	Class	Functionality	# acceptors	# donors	Molecular Structure	pKa Values
Arginine	174.2	244 (dec.)	1	Amine, COOH	2	7		2.18, 9.09, 13.2
Ascorbic acid	176.12	190-192	1	C=O, OH	6	4		4.17, 11.57
Asparagine	132.12	234-235	1	Amine, amide, COOH	3	5		2.02, 8.5
Aspartic acid	133.1	270-271	1	Amine, COOH	2	4		1.88, 3.65, 9.60
Benzenesulfonic Acid	158.18	43-44	1	SO <sub>3</sub> H	2	1		0.70, 1.58
Benzoic acid*	122.12	122-123	2	COOH	1	1		4.19

TABLE I

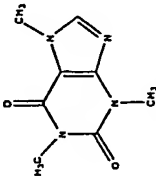
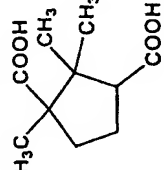
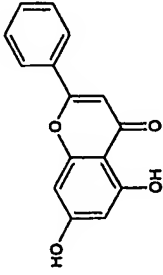
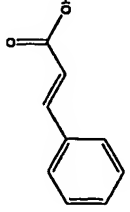
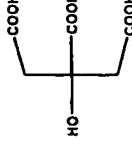
Co-Crystal Former	MW (g/mol)	MP (°C)	Class	Functionality	# acceptors	# donors	Molecular Structure	pKa Values
Caffeine	194.19	238	3	C=O	3	0		
Camphoric acid	200.23	186-189	2	Carboxylic acid	2	2		4.72, 5.83
Capric acid	172.27	31.4	1	Carboxylic acid	1	1	$\text{CH}_3(\text{CH}_2)_8\text{COOH}$	4.9
Chrysin	254.24	285	1	Phenol, ether, ketone	2	2		
Cinnamic acid	144.2	133	3	Carboxylic acid	1	1		4.4
Citric Acid	192.12	153	1	OH, COOH	4	4		3.13, 4.76, 6.40

TABLE I

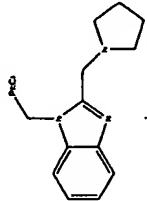
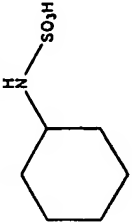
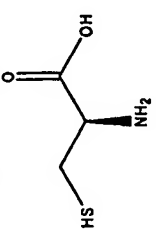
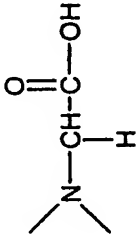
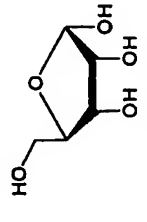
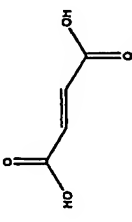
Co-Crystal Former	MW (g/mol)	MP (°C)	Class	Functionality	# acceptors	# donors	Molecular Structure	pKa Values
Clemizole	325.84	167	1	Pyrrolidine	3	0		
Cyclamic acid	179.24	169-170	3	NH, SO <sub>3</sub> H	2	2		-2
Cysteine	121.15	---	1	Amine, COOH, SH	2	4		1.71, 8.33, 10.78
Dimethylglycine	103.1	178-192	1	Amine, Carboxylic acid	2	1		2.5
D-Ribose	150.13	87	1	Alcohol, ether	1	4		
Fumaric acid	116.07	287	1	COOH	2	2		3.03, 4.38

TABLE I

Co-Crystal Former	MW (g/mol)	MP (°C)	Class	Functionality	# acceptors	# donors	Molecular Structure	pKa Values
Galactaric acid	210.14	255 (dec)	1	Carboxylic acid, alcohol	2	6		3.08, 3.63
Genistein	270.24	297-298	1	Alcohol, Phenol, ether, ketone	2	3		
Gentisic acid	154.12	199-200 form I, 205 form II	2	Carboxylic acid, alcohol, phenol	1	3		2.93
Glucamine, N-Methyl	195.22	128-129	1	Alcohol, Amine	5	6		8.03(B)
Gluconic acid	196.15	131	1	OH, COOH	6	6		3.76
Glucosamine	179.17	88	1	OH	5	6		6.91



TABLE I

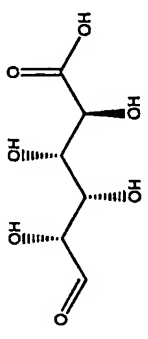
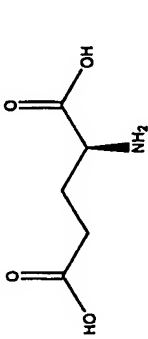
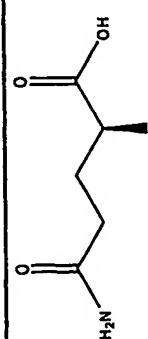
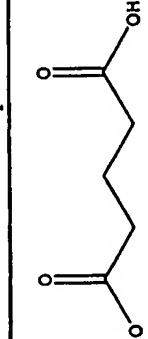
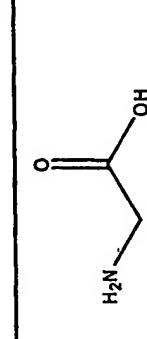
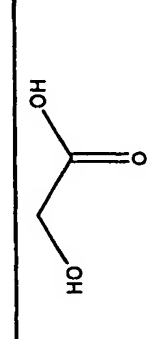
Co-Crystal Former	MW (g/mol)	MP (°C)	Class	Functionality	# acceptors	# donors	Molecular Structure	pKa Values
Glucuronic acid	194.14	165	1	Carboxylic acid, alcohol, aldehyde	2	5		3.18
Glutamic acid	147.13	160	1	Amine, COOH	2	4		2.19, 4.25, 9.67
Glutamine	146.15	185-186	1	Amine, Amide, COOH	2	5		2.17, 9.13
Glutaric acid	132.11	98-98	1	COOH	2	2		2.7, 4.5
Glycine	75.07	182	1	Amine, COOH	2	3		2.34, 9.6
Glycolic acid	76.05	80	1	OH, COOH	2	2		3.82

TABLE I

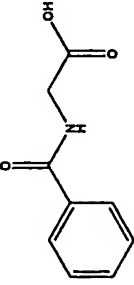
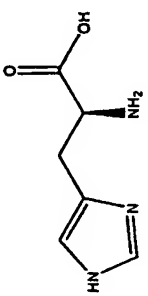
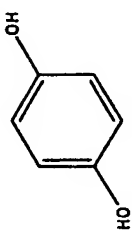
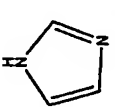
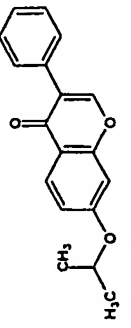
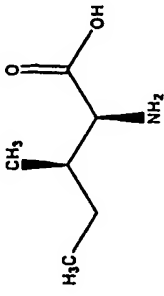
Co-Crystal Former	MW (g/mol)	MP (°C)	Class	Functionality	# acceptors	# donors	Molecular Structure	pKa Values
Hippuric acid	179.17	187-188	1	Amide, NH, COOH	2	2		3.55
Histidine	155.16	287 (dec.)	1	Amine, COOH, Imidazole	2	4		1.78, 5.97, 8.97
Hydroquinone*	110.11	170-171	2	OH, Phenol	2	2		~10
Imidazole	68.08	90-91	1	NH	1	1		6.92
Ipriflavone	280.32	115-117	1	Ketone, ether	3	0		
Isoleucine	131.17	168-170 (sub.)	1	Amine, COOH	1	3		2.32, 9.76

TABLE I

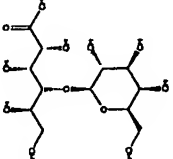
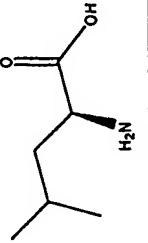
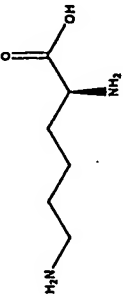

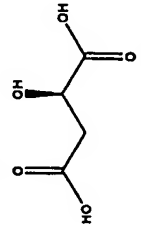
Co-Crystal Former	MW (g/mol)	MP (°C)	Class	Functionality	# acceptors	# donors	Molecular Structure	pKa Values
Lactobionic acid	358.3	128-130	2	Alcohol, carboxylic acid, ether	1	9		3.2
Lauric acid	200.32	44-48	1	Carboxylic acid	1	1	$\text{CH}_3(\text{CH}_2)_{10}\text{COOH}$	~4.5
Leucine	131.17	145-148 (sub.)	1	Carboxylic acid, amine	1	3		2.36, 9.6
Lysine	146.19	225 (dec.)	1	Amine, COOH	1	5		2.2, 8.9, 10.28
Maleic	116.07	138-139	1	COOH	2	2		1.92, 6.23
Malic acid	134.09	131-132	1	OH, COOH	3	3		3.46, 5.1

TABLE I

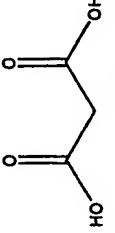
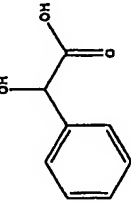
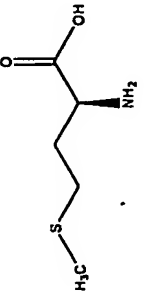
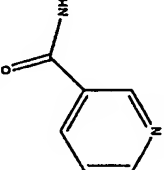
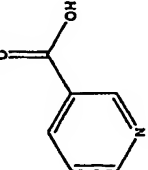
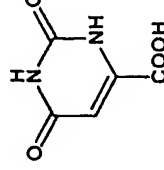
Co-Crystal Former	MW (g/mol)	MP (°C)	Class	Functionality	# acceptors	# donors	Molecular Structure	pKa Values
Malonic	104.06	135	1	COOH	2	2		2.83, 5.70
Mandelic acid	152.15	119	1	OH, COOH	2	2		3.37
Methionine	149.21	280-282 (dec.)	1	Amine, COOH, S-Me	2	3		2-3, 9
Nicotinamide	122.12	128-131	1	Pyridine, amide	2	2		3.3
Nicotinic acid	123.11	236-237	2	Carboxylic acid, pyridine	2	1		2.07(B), 4.85
Orotic acid	156.1	345-346	2	Carboxylic acid, lactam	3	3		5.85, 8.95

TABLE I

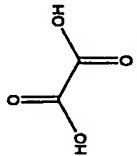
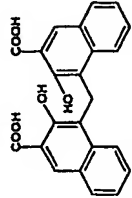
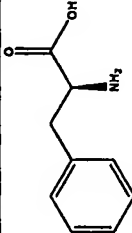
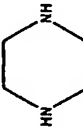
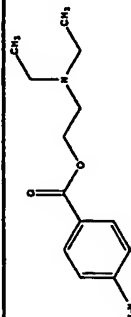
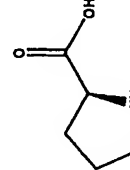
Co-Crystal Former	MW (g/mol)	MP (°C)	Class	Functionality	# acceptors	# donors	Molecular Structure	pKa Values
Oxalic acid	90.04	189 (dec)	2	Carboxylic acid	2	2		1.27, 4.27
Palmitic acid	256.43	63-64	1	Carboxylic acid	1	1	$\text{CH}_3(\text{CH}_2)_{14}\text{COOH}$	4.9
Pamoic	388.38	280 (dec)	2	Carboxylic acid, phenol	2	4		2.51, 3.1
Phenylalanine	165.19	283 (dec.)	1	Amine, COOH	1	3		~2, ~9
Piperazine	86.14	106	1	NH	0	2		9.82(B)
Procaine	236.31	61	1	Amine, C=O	2	2		8.9(B)
Proline	115.13	220-222 (dec.)	1	COOH, NH	1	2		1.99, 10.6

TABLE I

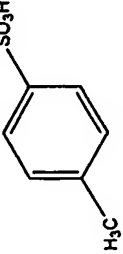
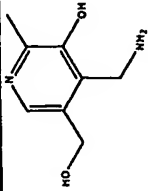
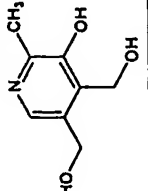
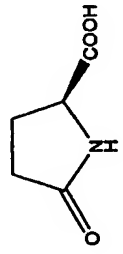
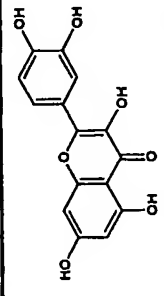
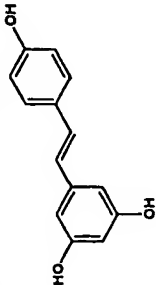
Co-Crystal Former	MW (g/mol)	MP (°C)	Class	Functionality	# acceptors	# donors	Molecular Structure	pKa Values
p-Toluenesulfonic acid	172.2	106-107	2	Sulfonic acid	2	1		-1.34
Pyridoxamine	168	193-194	2	OH, Amine, Pyridine	3	4		~9
Pyridoxine	170	160	2	Alcohol, Pyridine	3	3		~9
Pyroglutamic acid	129.12	162	2	Carboxylic acid, Lactam	2	2		3.32
Quercetin	302.24	314 dec.	1	Phenol, ether, ketone	2	5		
Resveratrol	228.24	253-255	1	Phenol	0	3		

TABLE I

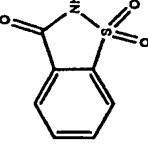
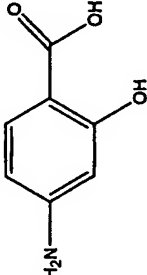
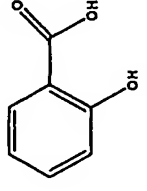
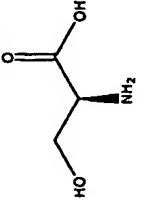
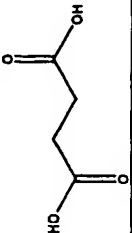
Co-Crystal Former	MW (g/mol)	MP (°C)	Class	Functionality	# acceptors	# donors	Molecular Structure	pKa Values
Saccharin	183.19	228-230	1	Amide, C=O, S=O, N-H	3	1		2
Salicylic acid, 4-amino	153.14	150-151	3	COOH, OH, Aniline	1	4		3.25, 10, 3.5(B)
Salicylic acid	138.12	159	3	COOH, OH	2	2		2.98, 13.82
Sebacic acid	202.25	134.5	1	Carboxylic acid	2	2	HOOC(CH <sub>2</sub> ) <sub>8</sub> COOH	4.59, 5.59
Serine	105.09	228 (dec.)	1	Carboxylic acid, amine, OH	2	3		2.21, 9.15
Stearic acid	284.47	70-71	1	Carboxylic acid	1	1	CH <sub>3</sub> (CH <sub>2</sub> ) <sub>16</sub> COOH	4.9
Succinic acid	118.09	185-187	1	Carboxylic acid	2	2		4.21, 5.64

TABLE I

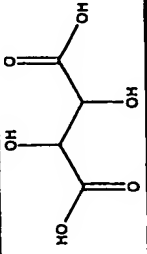
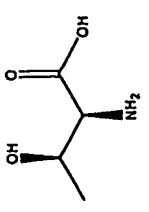
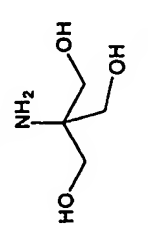
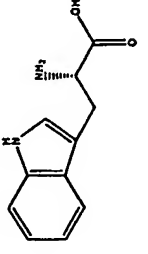
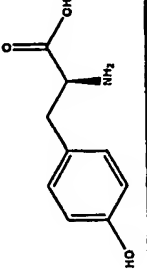
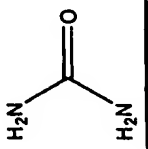
Co-Crystal Former	MW (g/mol)	MP (°C)	Class	Functionality	# acceptors	# donors	Molecular Structure	pKa Values
Tartaric acid	150.09	205-206	1	Carboxylic acid	4	4		3.02, 4.36
Threonine	119.12	255-257 (dec.)	1	Amine, COOH, OH	2	4		2.15, 9.12
TRIS	121.13	171-172	2	Amine, OH	3	5		5.91, 8.3
Tryptophan	204.23	289 (dec.)	1	Amine, COOH, Indole	1	4		2.38, 9.39
Tyrosine	181.19	342-344	1	Amine, COOH, OH	2	3		2.2, 9.11, 10.07
Urea	60.06	Dec.	1	C=O, NH2	1	4		~8



TABLE I

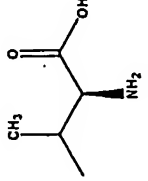
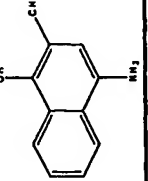
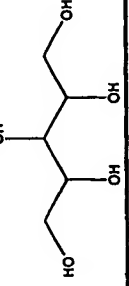
Co-Crystal Former	MW (g/mol)	MP (°C)	Class	Functionality	# acceptors	# donors	Molecular Structure	pKa Values
Valine	117.15	315	1	Amine, COOH	1	3		~4.5, ~9
Vitamin K5	209.68	280-282 (dec.)	3	Amine, OH	1	3		~9
Xylitol	152.15	93-95 (l)	2	OH	5	5		~9

TABLE II

Co-crystal Former	Co-crystal Former Functional Group	Interacting Group	aldehyde thiol	ether amide amide amide amide amide	ester amine amine amine amine amine	amide aniline aniline aniline aniline aniline aniline	Carboxylic Acid phenol phenol phenol phenol phenol *Carboxylic Acid Carboxylic Acid phenol phenol phenol phenol carboxylic acid phenol phenol phenol phenol phenol phenol phenol phenol phenol phenol
1,5-Naphthalene-disulfonic Acid	Sulfonic Acid	pyridine	ketone				
1-Hydroxy-2-naphthoic acid	Carboxylic Acid	alcohol	ketone				
1-Hydroxy-2-naphthoic acid	alcohol	alcohol	ketone				
4-Aminobenzoic Acid	Amine	alcohol	ketone				
4-Aminobenzoic Acid	Carboxylic Acid	alcohol	ketone				
4-aminopyridine	Amine	alcohol	ketone				
4-aminopyridine	Pyridine	*alcohol	pyridinium	*amide	nitro	*amine	
4-Chlorobenzene-Sulfonic Acid	Sulfonic Acid	pyridine	ketone	ether	ester	amide	
4-ethoxyphenyl Urea	Amide	alcohol	ketone	amide	amine	aniline	
4-ethoxyphenyl Urea	Amine	alcohol	ketone	amide	amine	aniline	
7-oxo-DHEA	alcohol	alcohol	ketone	amide	amine	aniline	
7-oxo-DHEA	Ketone	alcohol		amide	amine	aniline	
Acesulfame	Sulfone	pyridine	ketone	ether	ester	amide	
Acesulfame	Amide	alcohol	ketone	amide	amine	aniline	
Acetohydroxamic Acid	Amide	alcohol	ketone	amide	amine	aniline	
Acetohydroxamic Acid	Amine	alcohol	ketone	amide	amine	aniline	
Acetohydroxamic Acid	Alcohol	alcohol	ketone	amide	amine	aniline	
Adenine	Amine	alcohol	ketone	amide	amine	aniline	
Adenine	N	*alcohol	pyridinium	*amide	nitro	*amine	
Adipic acid	Carboxylic Acid	alcohol	ketone	amide	amine	aniline	
Alanine	Amine	alcohol	ketone	amide	amine	aniline	
Alanine	Carboxylic Acid	alcohol	ketone	amide	amine	aniline	
Allopurinaol	Alcohol	alcohol	ketone	amide	amine	aniline	
Allopurinaol	Amine	alcohol	ketone	amide	amine	aniline	
Arginine	Amine	alcohol	ketone	amide	amine	aniline	
Arginine	Carboxylic Acid	alcohol	ketone	amide	amine	aniline	
Ascorbic Acid	Ketone	alcohol	ketone	amide	amine	aniline	
Ascorbic Acid	Alcohol	alcohol	ketone	amide	amine	aniline	
Ascorbic Acid	Carboxylic Acid	alcohol	ketone	amide	amine	aniline	

TABLE II

Co-crystal Former	amine	metals	thioether	nitrate	sulfate	alcohol	metals	aldehyde
1,5-Naphthalene-disulfonic Acid	phosphate	sulfate	sulfone	nitrate	pyridine	alcohol	metals	aldehyde
1-Hydroxy-2-naphthoic acid	phosphate	sulfate	sulfone	nitrate	pyridine	carboxylic acid	metals	aldehyde
1-Hydroxy-2-naphthoic acid	phosphate	sulfate	sulfone	nitrate	pyridine	carboxylic acid	carboxylic acid	metals
4-Aminobenzoic Acid	phosphate	sulfate	sulfone	nitrate	pyridine	Carboxylic Acid	metals	metals
4-Aminobenzoic Acid	phosphate	sulfate	sulfone	nitrate	pyridine	carboxylic acid	metals	metals
4-aminopyridine								
4-aminopyridine	*sulfonamide	*ketone	ether	triazole		ammonium	oxime	*chlorine
4-Chlorobenzene-Sulfonic Acid	amine	metals	thioether			alcohol		
4-ethoxyphenyl Urea	phosphate	sulfate	sulfone	nitrate	sulfate		Carboxylic Acid	metals
4-ethoxyphenyl Urea	phosphate	sulfate	sulfone	nitrate	pyridine		carboxylic acid	metals
7-oxo-DHEA	phosphate	sulfate	sulfone	nitrate	pyridine	carboxylic acid	metals	aldehyde
7-oxo-DHEA	phosphate	sulfate	sulfone	nitrate	pyridine		Carboxylic Acid	metals
Acesulfame	amine	metals	thioether			alcohol		
Acesulfame	phosphate	sulfate	sulfone	nitrate	sulfate		Carboxylic Acid	metals
Acetohydroxamic Acid	phosphate	sulfate	sulfone	nitrate	pyridine		carboxylic acid	metals
Acetohydroxamic Acid	phosphate	sulfate	sulfone	nitrate	pyridine		carboxylic acid	metals
Acetohydroxamic Acid	phosphate	sulfate	sulfone	nitrate	pyridine		Carboxylic Acid	metals
Adenine	phosphate	sulfate	sulfone	nitrate	pyridine		carboxylic acid	metals
Adenine								
Adipic acid	*sulfonamide	*ketone	ether	triazole		ammonium	oxime	*chlorine
Alanine	phosphate	sulfate	sulfone	nitrate	pyridine		carboxylic acid	metals
Alanine	phosphate	sulfate	sulfone	nitrate	pyridine		carboxylic acid	metals
Alanine	phosphate	sulfate	sulfone	nitrate	pyridine		carboxylic acid	metals
Allopurinol	phosphate	sulfate	sulfone	nitrate	pyridine		Carboxylic Acid	metals
Allopurinol	phosphate	sulfate	sulfone	nitrate	pyridine		carboxylic acid	metals
Arginine	phosphate	sulfate	sulfone	nitrate	pyridine		carboxylic acid	metals
Arginine	phosphate	sulfate	sulfone	nitrate	pyridine		carboxylic acid	metals
Arginine	phosphate	sulfate	sulfone	nitrate	pyridine		carboxylic acid	metals
Ascorbic Acid	phosphate	sulfate	sulfone	nitrate	pyridine		Carboxylic Acid	metals
Ascorbic Acid	phosphate	sulfate	sulfone	nitrate	pyridine		Carboxylic Acid	metals
Ascorbic Acid	phosphate	sulfate	sulfone	nitrate	pyridine		carboxylic acid	metals

[illegible]



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[illegible]

<u>Co-crystal Former</u>	<u>epoxide</u>	<u>peroxide</u>
1,5-Naphthalene-disulfonic Acid		
1-Hydroxy-2-naphthoic acid		
1-Hydroxy-2-naphthoic acid		
4-Aminobenzoic Acid	iodine	
4-Aminobenzoic Acid	iodine	
4-aminopyridine	iodine	
4-aminopyridine		
4-Chlorobenzene-Sulfonic Acid		
4-ethoxyphenyl Urea	iodine	
4-ethoxyphenyl Urea	iodine	
7-oxo-DHEA	iodine	
7-oxo-DHEA		
Acesulfame		
Acesulfame	iodine	peroxide
Acetohydroxamic Acid	iodine	peroxide
Acetohydroxamic Acid	iodine	
Acetohydroxamic Acid	iodine	epoxide
Adenine	iodine	
Adenine		
Adipic acid	iodine	
Alanine	iodine	
Alanine	iodine	
Allopurinol	iodine	epoxide
Allopurinol	iodine	
Arginine	iodine	
Arginine	iodine	
Ascorbic Acid	iodine	
Ascorbic Acid	iodine	epoxide
Ascorbic Acid	iodine	

TABLE II

Co-crystal Former	Co-crystal Former Functional Group	Interacting Group	thiol	aldehyde	ether	amide	amine	amine	aniline	phenol
Asparagine	Amine	alcohol	ketone						aniline	phenol
Asparagine	Amide	alcohol	ketone						aniline	phenol
Asparagine	Carboxylic Acid	alcohol	ketone						aniline	phenol
Aspartic Acid	Amine	alcohol	ketone						aniline	phenol
Aspartic Acid	Carboxylic Acid	alcohol	ketone						aniline	Carboxylic
Benzenesulfonic Acid	Sulfonic Acid	pyridine	ketone				ester		amide	Acid
Benzolic Acid	Carboxylic Acid	alcohol	ketone				amine		aniline	phenol
Caffeine	Ketone	alcohol	ketone				amine		aniline	phenol
Camphoric acid	Carboxylic Acid	alcohol	ketone				amine		aniline	phenol
Capric acid	Carboxylic Acid	alcohol	ketone				amine		aniline	phenol
Genistein	Ketone	alcohol	ketone				amine		aniline	phenol
Genistein	Phenol	amine	amide				pyridine		cyano	aldehyde
Genistein	Ether	aromatic-N	amide				Sp2 amine		sulfoxide	chlorate
Cinnamic acid	Carboxylic Acid	alcohol	ketone				amine		aniline	phenol
Citric Acid	Alcohol	alcohol	ketone				amine		aniline	phenol
Citric Acid	Carboxylic Acid	alcohol	ketone				amine		aniline	phenol
Clemizole	Pyridine	*alcohol	pyridinium				nitro		*amine	*carboxylic
Cyclamic Acid	Amine	alcohol	ketone				amine		aniline	acid
Cyclamic Acid	Sulfonic Acid	pyridine	ketone				ester		amide	Carboxylic
Cysteine	Amine	alcohol	ketone				amine		aniline	Acid
Cysteine	Carboxylic Acid	alcohol	ketone				amine		aniline	phenol
Cysteine	Thiol	carboxylic	ketone				amine		aniline	phenol
Cysteine	Thiol	acid	sodium				-N		cadmium	
Dimethylglycine	Carboxylic Acid	alcohol	ketone				amine		aniline	phenol
Dimethylglycine	Amine	alcohol	ketone				amine		aniline	phenol
D-ribose	Ether	aromatic-N	amide				Sp2 amine		sulfoxide	chlorate
D-ribose	Alcohol	alcohol	ketone				amine		aniline	phenol
Fumaric Acid	Carboxylic Acid	alcohol	ketone				amine		aniline	phenol
Galactonic acid	Carboxylic Acid	alcohol	ketone				amine		aniline	phenol
Galactonic acid	alcohol	alcohol	ketone				amine		aniline	phenol
Chrysin	Ketone	alcohol	ketone				amine		aniline	phenol



TABLE II

Co-crystal Former	phosphate	sulfate	sulfone	nitrate	pyridine	alcohol	carboxylic acid	metals
Asparagine	phosphate	sulfate	sulfone	nitrate	pyridine		Carboxylic Acid	metals
Asparagine	phosphate	sulfate	sulfone	nitrate	pyridine		carboxylic acid	metals
Asparagine	phosphate	sulfate	sulfone	nitrate	pyridine		carboxylic acid	metals
Aspartic Acid	phosphate	sulfate	sulfone	nitrate	pyridine		carboxylic acid	metals
Aspartic Acid	phosphate	sulfate	sulfone	nitrate	pyridine		carboxylic acid	metals
Benzenesulfonic Acid	amine	metals	thioether		sulfate	alcohol	carboxylic acid	metals
Benzoic Acid	phosphate	sulfate	sulfone	nitrate	pyridine		Carboxylic Acid	metals
Caffeine	phosphate	sulfate	sulfone	nitrate	pyridine		carboxylic acid	metals
Camphoric acid	phosphate	sulfate	sulfone	nitrate	pyridine		carboxylic acid	metals
Capric acid	phosphate	sulfate	sulfone	nitrate	pyridine		Carboxylic Acid	metals
Genistein	phosphate	sulfate	sulfone	nitrate	pyridine	n-oxide	chlorine	fluorine
Genistein	phosphate	alcohol		ester	ether	nitro	nitrate	bromine
Genistein	chlorine		ciano	ester	amine		carboxylic acid	metals
Cinnamic acid	phosphate	sulfate	sulfone	nitrate	pyridine		Carboxylic Acid	metals
Citric Acid	phosphate	sulfate	sulfone	nitrate	pyridine		carboxylic acid	metals
Citric Acid	phosphate	sulfate	sulfone	nitrate	pyridine		carboxylic acid	metals
Clemizole	*sulfonamide	*ketone	ether	triazole		ammonium	oxime	*chlorine
Cyclamic Acid	phosphate	sulfate	sulfone	nitrate	pyridine		carboxylic acid	metals
Cyclamic Acid	amine	metals	thioether		sulfate	alcohol	carboxylic acid	metals
Cysteine	phosphate	sulfate	sulfone	nitrate	pyridine		carboxylic acid	metals
Cysteine	phosphate	sulfate	sulfone	nitrate	pyridine		carboxylic acid	metals
Cysteine	arsenic	chlorine	alcohol	potassium	Ru		Rb	Sb
Dimethylglycine	phosphate	sulfate	sulfone	nitrate	pyridine		carboxylic acid	metals
Dimethylglycine	phosphate	sulfate	sulfone	nitrate	pyridine		carboxylic acid	metals
D-ribose	chlorine		ciano	ester	amine	nitro	nitrate	bromine
D-ribose	phosphate	sulfate	sulfone	nitrate	pyridine		Carboxylic Acid	metals
Fumaric Acid	phosphate	sulfate	sulfone	nitrate	pyridine		carboxylic acid	metals
Galactaric acid	phosphate	sulfate	sulfone	nitrate	pyridine		carboxylic acid	metals
Galactaric acid	phosphate	sulfate	sulfone	nitrate	pyridine	carboxylic acid	metals	aldehyde
Chrysin	phosphate	sulfate	sulfone	nitrate	pyridine		Carboxylic Acid	metals

TABLE II

Co-crystal Former	aldehyde	ester	ether	cyano	sulfate	phosphate	furane	bromine	chlorine
Asparagine	aldehyde	ester	ether	cyano			furane	bromine	chlorine
Asparagine	aldehyde	ester	ether	cyano			furane	bromine	chlorine
Asparagine	aldehyde	ester	ether	cyano			furane	bromine	chlorine
Aspartic Acid	aldehyde	ester	ether	cyano			furane	bromine	chlorine
Aspartic Acid	aldehyde	ester	ether	cyano			furane	bromine	chlorine
Benzenesulfonic Acid	aldehyde	ester	ether	cyano			furane	bromine	chlorine
Benzoic Acid	aldehyde	ester	ether	cyano			furane	bromine	chlorine
Caffeine	aldehyde	ester	ether	cyano			furane	bromine	chlorine
Camphoric acid	aldehyde	ester	ether	cyano			furane	bromine	chlorine
Capric acid	aldehyde	ester	ether	cyano			furane	bromine	chlorine
Genistein	aldehyde	ester	ether	cyano			furane	bromine	chlorine
Genistein	bromine	iodine	ketone	sulfonic acid			phosphate	phosphonic acid	carboxylic acid
Genistein	aldehyde	ketone	peroxide	epoxide				heterocyclic-S	iodine
Cinnamic acid	aldehyde	ester	ether	cyano			furane	bromine	chlorine
Citric Acid	aldehyde	ester	ether	cyano			furane	bromine	chlorine
Citric Acid	aldehyde	ester	ether	cyano			furane	bromine	chlorine
Clemizole	aldehyde	thiol	n-heterocyclic ring	thionedisulfide			iodine	hydrazone	thiocyanate
Cyclamic Acid	aldehyde	ester	ether	cyano			furane	bromine	chlorine
Cyclamic Acid	aldehyde	ester	ether	cyano			furane	bromine	chlorine
Cysteine	aldehyde	ester	ether	cyano			furane	bromine	chlorine
Cysteine	aldehyde	ester	ether	cyano			furane	bromine	chlorine
Cysteine	aldehyde	ester	ether	cyano			furane	bromine	chlorine
Dimethylglycine	aldehyde	ester	ether	cyano			furane	bromine	chlorine
Dimethylglycine	aldehyde	ester	ether	cyano			furane	bromine	chlorine
D-ribose	aldehyde	ketone	peroxide	epoxide			furane	heterocyclic-S	iodine
D-ribose	aldehyde	ester	ether	cyano			furane	bromine	chlorine
Fumaric Acid	aldehyde	ester	ether	cyano			furane	bromine	chlorine
Galactaric acid	aldehyde	ester	ether	cyano			furane	bromine	chlorine
Galactaric acid	ester	ether	ether	cyano			furane	bromine	chlorine
Chrysin	aldehyde	ester	ether	cyano			bromine	chlorine	s-heterocyclic
Chrysin	aldehyde	ester	ether	cyano			furane	bromine	chlorine

TABLE II

Co-crystal Former	s-heterocyclic	pyridine	cyano	n-heterocyclic	ketone	phosphate ester
Asparagine	s-heterocyclic	pyridine	cyano	n-heterocyclic	ketone	phosphate ester
Asparagine	s-heterocyclic	pyridine	cyano	n-heterocyclic	ketone	phosphate ester
Asparagine	s-heterocyclic	pyridine	cyano	n-heterocyclic	ketone	phosphate ester
Aspartic Acid	s-heterocyclic	pyridine	cyano	n-heterocyclic	ketone	phosphate ester
Aspartic Acid	s-heterocyclic	pyridine	cyano	n-heterocyclic	ketone	phosphate ester
Benzenesulfonic Acid	s-heterocyclic	pyridine	cyano	n-heterocyclic	ketone	phosphate ester
Benzoic Acid	s-heterocyclic	pyridine	cyano	n-heterocyclic	ketone	phosphate ester
Caffeine	s-heterocyclic	pyridine	cyano	n-heterocyclic	ketone	phosphate ester
Camphoric acid	s-heterocyclic	pyridine	cyano	n-heterocyclic	ketone	phosphate ester
Capric acid	s-heterocyclic	pyridine	cyano	n-heterocyclic	ketone	phosphate ester
Genistein	s-heterocyclic	pyridine	cyano	n-heterocyclic	ketone	phosphate ester
Genistein	s-heterocyclic	pyridine	cyano	n-heterocyclic	ketone	phosphate ester
Genistein	s-heterocyclic	pyridine	cyano	n-heterocyclic	ketone	phosphate ester
Cinnamic acid	s-heterocyclic	pyridine	cyano	n-heterocyclic	ketone	phosphate ester
Citric Acid	s-heterocyclic	pyridine	cyano	n-heterocyclic	ketone	phosphate ester
Citric Acid	s-heterocyclic	pyridine	cyano	n-heterocyclic	ketone	phosphate ester
Clemizole	*bromine	pyridine	hydroxamic acid	cyano	carboxamide	*sulfonic acid
Cyclamic Acid	s-heterocyclic	pyridine	cyano	n-heterocyclic	ketone	phosphate ester
Cyclamic Acid	s-heterocyclic	pyridine	cyano	n-heterocyclic	ketone	phosphate ester
Cysteine	s-heterocyclic	pyridine	cyano	n-heterocyclic	ketone	phosphate ester
Cysteine	s-heterocyclic	pyridine	cyano	n-heterocyclic	ketone	phosphate ester
Cysteine	s-heterocyclic	pyridine	cyano	n-heterocyclic	ketone	phosphate ester
Dimethylglycine	s-heterocyclic	pyridine	cyano	n-heterocyclic	ketone	phosphate ester
Dimethylglycine	s-heterocyclic	pyridine	cyano	n-heterocyclic	ketone	phosphate ester
D-ribose	ester	ether	carboxylic acid	sulfate	sulfone	alcohol
D-ribose	s-heterocyclic	pyridine	cyano	n-heterocyclic	ketone	phosphate ester
Fumaric Acid	s-heterocyclic	pyridine	cyano	n-heterocyclic	ketone	phosphate ester
Galactaric acid	s-heterocyclic	pyridine	cyano	n-heterocyclic	ketone	phosphate ester
Galactaric acid	s-heterocyclic	pyridine	cyano	n-heterocyclic	ketone	phosphate ester
Chrysin	s-heterocyclic	pyridine	cyano	n-heterocyclic	ketone	phosphate ester

[illegible]

TABLE II

Co-crystal Former	iodine	epoxide	peroxide
Asparagine	iodine		
Asparagine	iodine		
Asparagine	iodine		
Aspartic Acid	iodine		
Aspartic Acid	iodine		
Benzenesulfonic Acid			
Benzoic Acid	iodine		
Caffeine	iodine		
Camphoric acid	iodine		
Capric acid	iodine		
Genistein	iodine		
Genistein			
Genistein			
Cinnamic acid	iodine		
Citric Acid	iodine	epoxide	
Citric Acid	iodine		
Clemizole			
Cyclamic Acid	iodine		
Cyclamic Acid			
Cysteine	iodine		
Cysteine	iodine		
Cysteine			
Dimethylglycine	iodine		
Dimethylglycine	iodine		
D-ribose			
D-ribose	iodine	epoxide	
Fumaric Acid	iodine		
Galactaric acid	iodine		
Galactaric acid	iodine		
Chrysin	iodine		



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TABLE II

Co-crystal Former	bromine	iodine	ketone	sulfonic acid	sulfate	phosphate	phosphonic acid	carboxylic acid
Chrysin	aldehyde	ketone	peroxide	epoxide			heterocyclic-S	iodine
Chrysin	aldehyde	ester	ether	cyano		furan	bromine	chlorine
Gentisic acid	bromine	iodine	ketone	sulfonic acid	sulfate	phosphate	phosphonic acid	carboxylic acid
Gentisic acid	ester	ether	cyano		furan	bromine	chlorine	s-heterocyclic
Glucamine, N-methyl	aldehyde	ester	ether	cyano		furan	bromine	chlorine
Glucamine, N-methyl	aldehyde	ester	ether	cyano		furan	bromine	chlorine
Gluconic Acid	aldehyde	ester	ether	cyano		furan	bromine	chlorine
Gluconic Acid	aldehyde	ester	ether	cyano		furan	bromine	chlorine
Glucosamine	aldehyde	ester	ether	cyano		furan	bromine	chlorine
Glucuronic acid	aldehyde	ester	ether	cyano		furan	bromine	chlorine
Glucuronic acid	ester	ether	cyano		furan	bromine	chlorine	s-heterocyclic
Glucuronic acid	aldehyde	ester	ether	cyano		furan	bromine	chlorine
Glutamic Acid	aldehyde	ester	ether	cyano		furan	bromine	chlorine
Glutamic Acid	aldehyde	ester	ether	cyano		furan	bromine	chlorine
Glutamine	aldehyde	ester	ether	cyano		furan	bromine	chlorine
Glutamine	aldehyde	ester	ether	cyano		furan	bromine	chlorine
Glutamine	aldehyde	ester	ether	cyano		furan	bromine	chlorine
Glutaric Acid	aldehyde	ester	ether	cyano		furan	bromine	chlorine
Glycine	aldehyde	ester	ether	cyano		furan	bromine	chlorine
Glycine	aldehyde	ester	ether	cyano		furan	bromine	chlorine
Glycolic Acid	aldehyde	ester	ether	cyano		furan	bromine	chlorine
Glycolic Acid	aldehyde	ester	ether	cyano		furan	bromine	chlorine
Hippuric Acid	aldehyde	ester	ether	cyano		furan	bromine	chlorine
Hippuric Acid	aldehyde	ester	ether	cyano		furan	bromine	chlorine
Hippuric Acid	aldehyde	ester	ether	cyano		furan	bromine	chlorine
Histidine	aldehyde	ester	ether	cyano		furan	bromine	chlorine
Histidine	aldehyde	ester	ether	cyano		furan	bromine	chlorine
Histidine	phosphinic acid							
	hemihydrate							
Histidine	e	chlorine	sulfonyl	sulfoxide	amide	fluorine	sulfonate ester	
Hydroquinone	aldehyde	ester	ether	cyano		furan	bromine	chlorine
Hydroquinone	bromine	iodine	ketone	sulfonic acid	sulfate	phosphate	phosphonic acid	carboxylic acid
Imidazole	aldehyde	ester	ether	cyano		furan	bromine	chlorine



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TABLE II

Co-crystal Former	fluorine	phosphate carbamate	cyanamide imidazole	BF4	alkane	aromatic	N-SO2	thiourea
Chrysin								
Chrysin								
Gentisic acid								
Gentisic acid								
Glucamine, N-methyl	carbamate	imidazole	BF4	BF4			N-SO2	thiourea
Glucamine, N-methyl	fluorine	carbamate	imidazole	BF4			N-SO2	thiourea
Gluconic Acid	fluorine	carbamate	imidazole	BF4			N-SO2	thiourea
Gluconic Acid	fluorine	carbamate	imidazole	BF4			N-SO2	thiourea
Glucosamine	fluorine	carbamate	imidazole	BF4			N-SO2	thiourea
Glucuronic acid	fluorine	carbamate	imidazole	BF4			N-SO2	thiourea
Glucuronic acid	carbamate	imidazole	BF4	BF4			N-SO2	thiourea
Glucuronic acid	fluorine	carbamate	imidazole	BF4			N-SO2	thiourea
Glutamic Acid	fluorine	carbamate	imidazole	BF4			N-SO2	thiourea
Glutamic Acid	fluorine	carbamate	imidazole	BF4			N-SO2	thiourea
Glutamine	fluorine	carbamate	imidazole	BF4			N-SO2	thiourea
Glutamine	fluorine	carbamate	imidazole	BF4			N-SO2	thiourea
Glutamine	fluorine	carbamate	imidazole	BF4			N-SO2	thiourea
Glutaric Acid	fluorine	carbamate	imidazole	BF4			N-SO2	thiourea
Glycine	fluorine	carbamate	imidazole	BF4			N-SO2	thiourea
Glycine	fluorine	carbamate	imidazole	BF4			N-SO2	thiourea
Glycolic Acid	fluorine	carbamate	imidazole	BF4			N-SO2	thiourea
Glycolic Acid	fluorine	carbamate	imidazole	BF4			N-SO2	thiourea
Hippuric Acid	fluorine	carbamate	imidazole	BF4			N-SO2	thiourea
Hippuric Acid	fluorine	carbamate	imidazole	BF4			N-SO2	thiourea
Hippuric Acid	fluorine	carbamate	imidazole	BF4			N-SO2	thiourea
Histidine	fluorine	carbamate	imidazole	BF4			N-SO2	thiourea
Histidine	fluorine	carbamate	imidazole	BF4			N-SO2	thiourea
Histidine								
Histidine								
Hydroquinone	fluorine	carbamate	imidazole	BF4			N-SO2	thiourea
Hydroquinone								
Imidazole	fluorine	carbamate	imidazole	BF4			N-SO2	thiourea

Co-crystal Former	Co-crystal Additive	Co-crystal Form
Chrysin	iodine	
Chrysin		
Gentisic acid		
Gentisic acid		
Glucamine, N-methyl	iodine	
Glucamine, N-methyl		
Gluconic Acid	iodine	epoxide
Gluconic Acid	iodine	
Glucosamine	iodine	epoxide
Glucuronic acid	iodine	
Glucuronic acid	iodine	
Glucuronic acid	iodine	epoxide
Glutamic Acid	iodine	
Glutamic Acid	iodine	
Glutamine	iodine	
Glutamine	iodine	epoxide
Glutamine	iodine	
Glutaric Acid	iodine	
Glycine	iodine	
Glycine	iodine	
Glycolic Acid	iodine	epoxide
Glycolic Acid	iodine	
Hippuric Acid	iodine	epoxide
Hippuric Acid	iodine	
Hippuric Acid	iodine	
Histidine	iodine	
Histidine	iodine	
Histidine	iodine	epoxide
Hydroquinone		
Hydroquinone		
Imidazole	iodine	

TABLE II

Co-crystal Former	Co-crystal Former Functional Group	Interacting Group	amine	aromatic_s	Sp2 amine	sulfoxide	chlorate
Ipriflavone	Ether	aromatic-N	thiol	amide	amine	aniline	phenol
Ipriflavone	Ketone	alcohol	thiol	amide	amine	aniline	phenol
Isoleucine	Amine	alcohol	thiol	amide	amine	aniline	phenol
Isoleucine	Carboxylic Acid	alcohol	thiol	amide	amine	aniline	phenol
Lactobionic acid	Carboxylic Acid	alcohol	thiol	amide	amine	aniline	phenol
Lactobionic acid	alcohol	alcohol	thiol	amide	amine	aniline	phenol
Lactobionic acid	Ether	aromatic-N	amine	aromatic_s	Sp2 amine	sulfoxide	chlorate
Lauric acid	Carboxylic Acid	alcohol	thiol	amide	amine	aniline	phenol
Leucine	Carboxylic Acid	alcohol	thiol	amide	amine	aniline	phenol
Leucine	Amine	alcohol	thiol	amide	amine	aniline	phenol
Lysine	Amine	alcohol	thiol	amide	amine	aniline	phenol
Lysine	Carboxylic Acid	alcohol	thiol	amide	amine	aniline	phenol
Maleic	Carboxylic Acid	alcohol	thiol	amide	amine	aniline	phenol
Malic Acid	Carboxylic Acid	alcohol	thiol	amide	amine	aniline	phenol
Malic Acid	Alcohol	alcohol	thiol	amide	amine	aniline	phenol
Malonic	Carboxylic Acid	alcohol	thiol	amide	amine	aniline	phenol
Mandellic Acid	Alcohol	alcohol	thiol	amide	amine	aniline	phenol
Mandellic Acid	Carboxylic Acid	alcohol	thiol	amide	amine	aniline	phenol
Methionine	Amine	alcohol	thiol	amide	amine	aniline	phenol
Methionine	Carboxylic Acid	alcohol	thiol	amide	amine	aniline	phenol
Methionine	Thioether	-N	amine	_s	amine	sulfoxide	chlorate
Nicotinamide	Pyridine	*alcohol	*	*amide	nitro	*amine	*Carboxylic Acid
Nicotinamide	Amide	alcohol	thiol	amide	amine	aniline	phenol
Nicotinic Acid	Carboxylic Acid	alcohol	thiol	amide	amine	aniline	phenol
Nicotinic Acid	Pyridine	*alcohol	*	*amide	nitro	*amine	*Carboxylic Acid
Orotic acid	Carboxylic Acid	alcohol	thiol	amide	amine	aniline	phenol
Orotic acid	Lactam	alcohol	thiol	amide	amine	aniline	phenol
Oxalic acid	Carboxylic Acid	alcohol	thiol	amide	amine	aniline	phenol
Palmitic acid	Carboxylic Acid	alcohol	thiol	amide	amine	aniline	phenol
Pantoic acid	Carboxylic Acid	alcohol	thiol	amide	amine	aniline	phenol
Pantoic acid	alcohol	alcohol	thiol	amide	amine	aniline	phenol
Pantoic acid	Phenol	amine	sulfoxide	n	pyridine	cyano	aldehyde

TABLE II

Co-crystal Former	chlorine	sulfate	cyano	ester	amine	nitro	nitrate	bromine
Ipriflavone	phosphate	sulfate	sulfone	nitrate	pyridine		Carboxylic Acid	metals
Ipriflavone	phosphate	sulfate	sulfone	nitrate	pyridine		carboxilic acid	metals
Isoleucine	phosphate	sulfate	sulfone	nitrate	pyridine		carboxilic acid	metals
Isoleucine	phosphate	sulfate	sulfone	nitrate	pyridine		carboxilic acid	metals
Lactobionic acid	phosphate	sulfate	sulfone	nitrate	pyridine	carboxilic acid	metals	aldehyde
Lactobionic acid	chlorine		cyano	ester	amine	nitro	nitrate	bromine
Lactobionic acid	phosphate	sulfate	sulfone	nitrate	pyridine		carboxilic acid	
Lauroic acid	phosphate	sulfate	sulfone	nitrate	pyridine		Carboxylic Acid	metals
Leucine	phosphate	sulfate	sulfone	nitrate	pyridine		carboxilic acid	metals
Leucine	phosphate	sulfate	sulfone	nitrate	pyridine		carboxilic acid	metals
Lysine	phosphate	sulfate	sulfone	nitrate	pyridine		carboxilic acid	metals
Lysine	phosphate	sulfate	sulfone	nitrate	pyridine		carboxilic acid	metals
Maleic	phosphate	sulfate	sulfone	nitrate	pyridine		Carboxylic Acid	metals
Maleic Acid	phosphate	sulfate	sulfone	nitrate	pyridine		carboxilic acid	metals
Maleic Acid	phosphate	sulfate	sulfone	nitrate	pyridine		carboxilic acid	metals
Malonic	phosphate	sulfate	sulfone	nitrate	pyridine		carboxilic acid	metals
Mandelic Acid	phosphate	sulfate	sulfone	nitrate	pyridine		Carboxylic Acid	metals
Mandelic Acid	phosphate	sulfate	sulfone	nitrate	pyridine		carboxilic acid	metals
Methionine	phosphate	sulfate	sulfone	nitrate	pyridine		carboxilic acid	metals
Methionine	phosphate	sulfate	sulfone	nitrate	pyridine		carboxilic acid	metals
Methionine	chlorine		cyano	ester	amine	nitro	nitrate	bromine
Nicotinamide	*sulfonamide	*ketone	ether	triazole		ammonium	oxime	*chlorine
Nicotinamide	phosphate	sulfate	sulfone	nitrate	pyridine		Carboxylic Acid	metals
Nicotinic Acid	phosphate	sulfate	sulfone	nitrate	pyridine		Carboxylic Acid	metals
Nicotinic Acid	*sulfonamide	*ketone	ether	triazole		ammonium	oxime	*chlorine
Orotic acid	phosphate	sulfate	sulfone	nitrate	pyridine		carboxilic acid	metals
Orotic acid	phosphate	sulfate	sulfone	nitrate	pyridine		Carboxylic Acid	metals
Oxalic acid	phosphate	sulfate	sulfone	nitrate	pyridine		carboxilic acid	
Palmitic acid	phosphate	sulfate	sulfone	nitrate	pyridine		carboxilic acid	
Pamoic acid	phosphate	sulfate	sulfone	nitrate	pyridine		carboxilic acid	
Pamoic acid	phosphate	sulfate	sulfone	nitrate	pyridine	carboxilic acid	metals	aldehyde
Pamoic acid	phosphate	sulfate	sulfone	nitrate	pyridine	n-oxide	chlorine	fluorine

TABLE II

Co-crystal Former	aldehyde	ketone	peroxide	epoxide	furan	heterocyclic-S	iodine
Ipriflavone	aldehyde	ester	ether	cyano		bromine	chlorine
Ipriflavone	aldehyde	ester	ether	cyano		bromine	chlorine
Isoleucine	aldehyde	ester	ether	cyano		bromine	chlorine
Isoleucine	aldehyde	ester	ether	cyano		bromine	chlorine
Lactobionic acid	ester	ether	cyano		bromine	chlorine	s-heterocyclic
Lactobionic acid	aldehyde	ketone	peroxide	epoxide		heterocyclic-S	iodine
Lactobionic acid	aldehyde	ester	ether	cyano	furan	bromine	chlorine
Lauric acid	aldehyde	ester	ether	cyano	furan	bromine	chlorine
Leucine	aldehyde	ester	ether	cyano	furan	bromine	chlorine
Leucine	aldehyde	ester	ether	cyano	furan	bromine	chlorine
Lysine	aldehyde	ester	ether	cyano	furan	bromine	chlorine
Lysine	aldehyde	ester	ether	cyano	furan	bromine	chlorine
Maleic	aldehyde	ester	ether	cyano	furan	bromine	chlorine
Malic Acid	aldehyde	ester	ether	cyano	furan	bromine	chlorine
Malic Acid	aldehyde	ester	ether	cyano	furan	bromine	chlorine
Malonic	aldehyde	ester	ether	cyano	furan	bromine	chlorine
Mandelic Acid	aldehyde	ester	ether	cyano	furan	bromine	chlorine
Mandelic Acid	aldehyde	ester	ether	cyano	furan	bromine	chlorine
Methionine	aldehyde	ester	ether	cyano	furan	bromine	chlorine
Methionine	aldehyde	ester	ether	cyano	furan	bromine	chlorine
Methionine	aldehyde	ketone	peroxide	epoxide	Se	heterocyclic-S	iodine
Nicotinamide		thiol	n-heterocyclic ring	thionedisulfide	pyrrolidindione	hydrazone	thiocyanate
Nicotinamide	aldehyde	ester	ether	cyano	furan	bromine	chlorine
Nicotinic Acid	aldehyde	ester	ether	cyano	furan	bromine	chlorine
Nicotinic Acid		thiol	n-heterocyclic ring	thionedisulfide	pyrrolidindione	hydrazone	thiocyanate
Orotic acid	aldehyde	ester	ether	cyano	furan	bromine	chlorine
Orotic acid	aldehyde	ester	ether	cyano	furan	bromine	chlorine
Oxalic acid	aldehyde	ester	ether	cyano	furan	bromine	chlorine
Palmitic acid	aldehyde	ester	ether	cyano	furan	bromine	chlorine
Pantoic acid	aldehyde	ester	ether	cyano	furan	bromine	chlorine
Pantoic acid	ester	ether	cyano	sulfonic acid	furan	chlorine	s-heterocyclic
Pantoic acid	bromine	iodine	ketone	sulfate	phosphate	phosphonic acid	carboxylic acid

TABLE II

Co-crystal Former	ester	ether	carboxylic acid	sulfate	sulfone	phosphate ester	alcohol
Ipriflavone	s-heterocyclic	pyridine	cyano	n-heterocyclic	ketone	phosphate ester	alcohol
Ipriflavone	s-heterocyclic	pyridine	cyano	n-heterocyclic	ketone	phosphate ester	
Isoleucine	s-heterocyclic	pyridine	cyano	n-heterocyclic	ketone	phosphate ester	
Isoleucine	s-heterocyclic	pyridine	cyano	n-heterocyclic	ketone	phosphate ester	
Lactobionic acid	pyridine	cyano	n-heterocyclic	ketone	phosphate ester		fluorine
Lactobionic acid	ester	ether	carboxylic acid	sulfate	sulfone		alcohol
Lactobionic acid	s-heterocyclic	pyridine	cyano	n-heterocyclic	ketone	phosphate ester	
Lauric acid	s-heterocyclic	pyridine	cyano	n-heterocyclic	ketone	phosphate ester	
Leucine	s-heterocyclic	pyridine	cyano	n-heterocyclic	ketone	phosphate ester	
Leucine	s-heterocyclic	pyridine	cyano	n-heterocyclic	ketone	phosphate ester	
Lysine	s-heterocyclic	pyridine	cyano	n-heterocyclic	ketone	phosphate ester	
Lysine	s-heterocyclic	pyridine	cyano	n-heterocyclic	ketone	phosphate ester	
Maleic	s-heterocyclic	pyridine	cyano	n-heterocyclic	ketone	phosphate ester	
Malic Acid	s-heterocyclic	pyridine	cyano	n-heterocyclic	ketone	phosphate ester	
Malic Acid	s-heterocyclic	pyridine	cyano	n-heterocyclic	ketone	phosphate ester	
Malonic	s-heterocyclic	pyridine	cyano	n-heterocyclic	ketone	phosphate ester	
Mandelic Acid	s-heterocyclic	pyridine	cyano	n-heterocyclic	ketone	phosphate ester	
Mandelic Acid	s-heterocyclic	pyridine	cyano	n-heterocyclic	ketone	phosphate ester	
Methionine	s-heterocyclic	pyridine	cyano	n-heterocyclic	ketone	phosphate ester	
Methionine	s-heterocyclic	pyridine	cyano	n-heterocyclic	ketone	phosphate ester	
Methionine	ester	ether	carboxylic acid	sulfate	sulfone	phosphate ester	alcohol
Nicotinamide	*bromine		hydroxamic acid	cyano	carboxamide	*sulfonic acid	*phosphoric acid
Nicotinamide	s-heterocyclic	pyridine	cyano	n-heterocyclic	ketone	phosphate ester	
Nicotinic Acid	s-heterocyclic	pyridine	cyano	n-heterocyclic	ketone	phosphate ester	
Nicotinic Acid	*bromine		hydroxamic acid	cyano	carboxamide	*sulfonic acid	*phosphoric acid
Orotic acid	s-heterocyclic	pyridine	cyano	n-heterocyclic	ketone	phosphate ester	
Orotic acid	s-heterocyclic	pyridine	cyano	n-heterocyclic	ketone	phosphate ester	
Oxalic acid	s-heterocyclic	pyridine	cyano	n-heterocyclic	ketone	phosphate ester	
Palmitic acid	s-heterocyclic	pyridine	cyano	n-heterocyclic	ketone	phosphate ester	
Pantoic acid	s-heterocyclic	pyridine	cyano	n-heterocyclic	ketone	phosphate ester	
Pantoic acid	pyridine	cyano	n-heterocyclic	ketone	phosphate ester		fluorine
Pantoic acid	nitro	sulfone	aniline				

TABLE II

Co-crystal Former	fluorine	phosphate	cyanamide	BF <sub>4</sub>	N-SO <sub>2</sub>	thiourea
Ipriflavone	fluorine	carbamate	imidazole	BF <sub>4</sub>	N-SO <sub>2</sub>	thiourea
Ipriflavone	fluorine	carbamate	imidazole	BF <sub>4</sub>	N-SO <sub>2</sub>	thiourea
Isoleucine	fluorine	carbamate	imidazole	BF <sub>4</sub>	N-SO <sub>2</sub>	thiourea
Isoleucine	fluorine	carbamate	imidazole	BF <sub>4</sub>	N-SO <sub>2</sub>	thiourea
Lactobionic acid	carbamate	imidazole	BF <sub>4</sub>			
Lactobionic acid		phosphate	cyanamide			
Lactobionic acid	fluorine	carbamate	imidazole	BF <sub>4</sub>	N-SO <sub>2</sub>	thiourea
Lauric acid	fluorine	carbamate	imidazole	BF <sub>4</sub>	N-SO <sub>2</sub>	thiourea
Leucine	fluorine	carbamate	imidazole	BF <sub>4</sub>	N-SO <sub>2</sub>	thiourea
Leucine	fluorine	carbamate	imidazole	BF <sub>4</sub>	N-SO <sub>2</sub>	thiourea
Lysine	fluorine	carbamate	imidazole	BF <sub>4</sub>	N-SO <sub>2</sub>	thiourea
Lysine	fluorine	carbamate	imidazole	BF <sub>4</sub>	N-SO <sub>2</sub>	thiourea
Maleic	fluorine	carbamate	imidazole	BF <sub>4</sub>	N-SO <sub>2</sub>	thiourea
Malic Acid	fluorine	carbamate	imidazole	BF <sub>4</sub>	N-SO <sub>2</sub>	thiourea
Malic Acid	fluorine	carbamate	imidazole	BF <sub>4</sub>	N-SO <sub>2</sub>	thiourea
Malonic	fluorine	carbamate	imidazole	BF <sub>4</sub>	N-SO <sub>2</sub>	thiourea
Mandelic Acid	fluorine	carbamate	imidazole	BF <sub>4</sub>	N-SO <sub>2</sub>	thiourea
Mandelic Acid	fluorine	carbamate	imidazole	BF <sub>4</sub>	N-SO <sub>2</sub>	thiourea
Methionine	fluorine	carbamate	imidazole	BF <sub>4</sub>	N-SO <sub>2</sub>	thiourea
Methionine	fluorine	carbamate	imidazole	BF <sub>4</sub>	N-SO <sub>2</sub>	thiourea
Methionine		phosphate				
Nicotinamide	N-oxide	ester	ether	fluorine	dithiadiazocyclopentadienyl	thiourea
Nicotinamide	fluorine	carbamate	imidazole	BF <sub>4</sub>	N-SO <sub>2</sub>	thiourea
Nicotinic Acid	fluorine	carbamate	imidazole	BF <sub>4</sub>	N-SO <sub>2</sub>	thiourea
Nicotinic Acid	N-oxide	ester	ether	fluorine	dithiadiazocyclopentadienyl	thiourea
Orotic acid	fluorine	carbamate	imidazole	BF <sub>4</sub>	N-SO <sub>2</sub>	thiourea
Orotic acid	fluorine	carbamate	imidazole	BF <sub>4</sub>	N-SO <sub>2</sub>	thiourea
Oxalic acid	fluorine	carbamate	imidazole	BF <sub>4</sub>	N-SO <sub>2</sub>	thiourea
Palmitic acid	fluorine	carbamate	imidazole	BF <sub>4</sub>	N-SO <sub>2</sub>	thiourea
Pamoic acid	fluorine	carbamate	imidazole	BF <sub>4</sub>	N-SO <sub>2</sub>	thiourea
Pamoic acid	carbamate	imidazole	BF <sub>4</sub>			
Pamoic acid						



TABLE II

Co-crystal Former			
Ipriflavone	iodine		
Ipriflavone	iodine		
Isoleucine	iodine		
Isoleucine	iodine		
lactobionic acid	iodine		
Lactobionic acid			
Lactobionic acid			
Lauric acid	iodine		
Leucine	iodine		
Leucine	iodine		
Lysine	iodine		
Lysine	iodine		
Maleic	iodine		
Malic Acid	iodine	epoxide	
Malic Acid	iodine		
Malonic	iodine		
Mandelic Acid	iodine	epoxide	
Mandelic Acid	iodine		
Methionine	iodine		
Methionine	iodine		
Methionine	iodine		
Nicotinamide			
Nicotinamide	iodine	epoxide	peroxide
Nicotinic Acid	iodine		
Nicotinic Acid			
Orotic acid	iodine		
Orotic acid	iodine	epoxide	peroxide
Oxalic acid	iodine		
Palmitic acid	iodine		
Pamoic acid	iodine		
Pamoic acid	iodine		
Pamoic acid			

TABLE II

Co-crystal Former	Co-crystal Former Functional Group	Interacting Group	thiol	amide	amine	aniline	phenol
Phenylalanine	Amine	alcohol	ketone	amide	amine	aniline	phenol
Phenylalanine	Carboxylic Acid	alcohol	ketone	amide	amine	aniline	phenol
Piperazine	Amine	alcohol	ketone	amide	amine	aniline	phenol
Procaine	Amine	alcohol	ketone	amide	amine	aniline	phenol
Proline	Ketone	alcohol	ketone	amide	amine	aniline	phenol
Proline	Carboxylic Acid	alcohol	ketone	amide	amine	aniline	phenol
Proline	Amine	alcohol	ketone	amide	amine	aniline	phenol
p-Toluenesulfonic acid	Sulfonic Acid	pyridine	aldehyde	ether	ester	amide	Carboxylic Acid
Pyridoxamine	Alcohol	alcohol	thiol	amide	amine	aniline	phenol
Pyridoxamine	Amine	alcohol	ketone	amide	amine	aniline	phenol
Pyridoxamine	Pyridine	*alcohol	*	*amide	nitro	*amine	*Carboxylic Acid
Pyridoxine	Pyridine	*alcohol	pyridinium	*amide	nitro	*amine	*Carboxylic Acid
(4-Pyridoxic Acid)	Alcohol	alcohol	ketone	amide	amine	aniline	phenol
(4-Pyridoxic Acid)	Carboxylic Acid	alcohol	ketone	amide	amine	aniline	phenol
Pyroglutamic acid	Lactam	alcohol	ketone	amide	amine	aniline	phenol
Pyroglutamic acid	Ketone	alcohol	ketone	amide	amine	aniline	phenol
Quercetin	Phenol	amine	thiol	amide	pyridine	cyano	aldehyde
Quercetin	Ether	aromatic-N	amine	aromatic_s	Sp2 amine	sulfoxide	chlorate
Quercetin	Ketone	alcohol	thiol	amide	amine	aniline	phenol
Resveratrol	Phenol	amine	sulfoxide	n	pyridine	cyano	aldehyde
Resveratrol	Amide	alcohol	thiol	amide	amine	aniline	phenol
Saccharin	Ketone	alcohol	thiol	amide	amine	aniline	phenol
Saccharin	Sulfoxide	pyridine	aldehyde	ether	ester	amide	Carboxylic Acid
Saccharin	Amine	alcohol	thiol	amide	amine	aniline	phenol
Salicylic Acid	Carboxylic Acid	alcohol	thiol	amide	amine	aniline	phenol
Salicylic Acid	Alcohol	alcohol	thiol	amide	amine	aniline	phenol
Salicylic Acid, 4-amino	Carboxylic Acid	alcohol	thiol	amide	amine	aniline	phenol
Salicylic Acid, 4-amino	alcohol	alcohol	thiol	amide	amine	aniline	phenol
Salicylic Acid, 4-amino	Amine	alcohol	thiol	amide	amine	aniline	phenol

TABLE II

Co-crystal Former	phosphate	sulfate	sulfone	nitrate	pyridine	carboxylic acid	metals
Phenylalanine	phosphate	sulfate	sulfone	nitrate	pyridine	carboxylic acid	metals
Phenylalanine	phosphate	sulfate	sulfone	nitrate	pyridine	carboxylic acid	metals
Piperazine	phosphate	sulfate	sulfone	nitrate	pyridine	carboxylic acid	metals
Procaine	phosphate	sulfate	sulfone	nitrate	pyridine	Carboxylic Acid	metals
Procaine	phosphate	sulfate	sulfone	nitrate	pyridine	carboxylic acid	metals
Proline	phosphate	sulfate	sulfone	nitrate	pyridine	carboxylic acid	metals
Proline	phosphate	sulfate	sulfone	nitrate	pyridine	carboxylic acid	metals
p-Toluenesulfonic acid	amine	metals	thioether		sulfate		
Pyridoxamine	phosphate	sulfate	sulfone	nitrate	pyridine	Carboxylic Acid	metals
Pyridoxamine	phosphate	sulfate	sulfone	nitrate	pyridine	carboxylic acid	metals
Pyridoxine	*sulfonamide	*ketone	ether	triazole		oxime	*chlorine
(4-Pyridoxic Acid)	*sulfonamide	*ketone	ether	triazole		oxime	*chlorine
Pyridoxine	phosphate	sulfate	sulfone	nitrate	pyridine	Carboxylic Acid	metals
(4-Pyridoxic Acid)	phosphate	sulfate	sulfone	nitrate	pyridine	carboxylic acid	metals
Pyroglutamic acid	phosphate	sulfate	sulfone	nitrate	pyridine	Carboxylic Acid	metals
Pyroglutamic acid	phosphate	sulfate	sulfone	nitrate	pyridine	Carboxylic Acid	metals
Quercetin	phosphate	sulfate	sulfone	nitrate	pyridine	chlorine	fluorine
Quercetin	phosphate	sulfate	sulfone	nitrate	pyridine	nitrate	bromine
Quercetin	phosphate	sulfate	sulfone	nitrate	pyridine	Carboxylic Acid	metals
Resveratrol	phosphate	sulfate	sulfone	nitrate	pyridine	chlorine	fluorine
Resveratrol	phosphate	sulfate	sulfone	nitrate	pyridine	Carboxylic Acid	metals
Saccharin	phosphate	sulfate	sulfone	nitrate	pyridine	Carboxylic Acid	metals
Saccharin	phosphate	sulfate	sulfone	nitrate	pyridine	Carboxylic Acid	metals
Saccharin	amine	metals	thioether		sulfate		
Saccharin	phosphate	sulfate	sulfone	nitrate	pyridine	Carboxylic Acid	metals
Salicylic Acid	phosphate	sulfate	sulfone	nitrate	pyridine	carboxylic acid	metals
Salicylic Acid	phosphate	sulfate	sulfone	nitrate	pyridine	Carboxylic Acid	metals
Salicylic Acid, 4-amino	phosphate	sulfate	sulfone	nitrate	pyridine	carboxylic acid	metals
Salicylic Acid, 4-amino	phosphate	sulfate	sulfone	nitrate	pyridine	carboxylic acid	metals
Salicylic Acid, 4-amino	phosphate	sulfate	sulfone	nitrate	pyridine	carboxylic acid	metals
Salicylic Acid, 4-amino	phosphate	sulfate	sulfone	nitrate	pyridine	carboxylic acid	metals

Co-crystal Former	aldehyde	ester	ether	cyano	iodine	bromine	chlorine
Phenylalanine	aldehyde	ester	ether	cyano	furan	bromine	chlorine
Phenylalanine	aldehyde	ester	ether	cyano	furan	bromine	chlorine
Piperazine	aldehyde	ester	ether	cyano	furan	bromine	chlorine
Procaine	aldehyde	ester	ether	cyano	furan	bromine	chlorine
Proline	aldehyde	ester	ether	cyano	furan	bromine	chlorine
Proline	aldehyde	ester	ether	cyano	furan	bromine	chlorine
p-Toluenesulfonic acid	aldehyde	ester	ether	cyano	furan	bromine	chlorine
Pyridoxamine	aldehyde	ester	ether	cyano	furan	bromine	chlorine
Pyridoxamine	aldehyde	ester	ether	cyano	furan	bromine	chlorine
Pyridoxine	aldehyde	thiol	n-heterocyclic ring	thionedisulfide	iodine	hydrazone	thiocyanate
(4-Pyridoxic Acid)	aldehyde	thiol	n-heterocyclic ring	thionedisulfide	pyrrolidindione	hydrazone	thiocyanate
Pyridoxine	aldehyde	ester	ether	cyano	furan	bromine	chlorine
(4-Pyridoxic Acid)	aldehyde	ester	ether	cyano	furan	bromine	chlorine
Pyroglutamic acid	aldehyde	ester	ether	cyano	furan	bromine	chlorine
Pyroglutamic acid	aldehyde	ester	ether	cyano	phosphate	bromine	chlorine
Quercetin	bromine	iodine	ketone	sulfonic acid	sulfate	phosphonic acid	carboxylic acid
Quercetin	aldehyde	ketone	peroxide	epoxide		heterocyclic-S	iodine
Quercetin	aldehyde	ester	ether	cyano		bromine	chlorine
Resveratrol	bromine	iodine	ketone	sulfonic acid	phosphate	phosphonic acid	carboxylic acid
Resveratrol	aldehyde	ester	ether	cyano		bromine	chlorine
Saccharin	aldehyde	ester	ether	cyano		bromine	chlorine
Saccharin	aldehyde	ester	ether	cyano		bromine	chlorine
Saccharin	aldehyde	ester	ether	cyano		bromine	chlorine
Saccharin	aldehyde	ester	ether	cyano		bromine	chlorine
Salicylic Acid	aldehyde	ester	ether	cyano		bromine	chlorine
Salicylic Acid	aldehyde	ester	ether	cyano		bromine	chlorine
Salicylic Acid, 4-amino	aldehyde	ester	ether	cyano		bromine	chlorine
Salicylic Acid, 4-amino	ester	ether	cyano			chlorine	s-heterocyclic
Salicylic Acid, 4-amino	aldehyde	ester	ether	cyano	furan	bromine	chlorine

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TABLE II

<b>Co-crystal Former</b>	fluorine	carbamate	imidazole	BF <sub>4</sub>	N-SO <sub>2</sub>	thiourea
Phenylalanine	fluorine	carbamate	imidazole	BF <sub>4</sub>	N-SO <sub>2</sub>	thiourea
Piperazine	fluorine	carbamate	imidazole	BF <sub>4</sub>	N-SO <sub>2</sub>	thiourea
Procaine	fluorine	carbamate	imidazole	BF <sub>4</sub>	N-SO <sub>2</sub>	thiourea
Proline	fluorine	carbamate	imidazole	BF <sub>4</sub>	N-SO <sub>2</sub>	thiourea
Proline	fluorine	carbamate	imidazole	BF <sub>4</sub>	N-SO <sub>2</sub>	thiourea
p-Toluenesulfonic acid	fluorine	carbamate	imidazole	BF <sub>4</sub>	N-SO <sub>2</sub>	thiourea
Pyridoxamine	fluorine	carbamate	imidazole	BF <sub>4</sub>	N-SO <sub>2</sub>	thiourea
Pyridoxine	N-oxide	ester	ether	fluorine	dithiadiazocyclopentadienyl	
(4-Pyridoxic Acid)	N-oxide	ester	ether	fluorine	dithiadiazocyclopentadienyl	
Pyridoxine	fluorine	carbamate	imidazole	BF <sub>4</sub>	N-SO <sub>2</sub>	thiourea
(4-Pyridoxic Acid)	fluorine	carbamate	imidazole	BF <sub>4</sub>	N-SO <sub>2</sub>	thiourea
Pyroglutamic acid	fluorine	carbamate	imidazole	BF <sub>4</sub>	N-SO <sub>2</sub>	thiourea
Pyroglutamic acid	fluorine	carbamate	imidazole	BF <sub>4</sub>	N-SO <sub>2</sub>	thiourea
Quercetin	fluorine	phosphate	cyanamide	BF <sub>4</sub>	N-SO <sub>2</sub>	thiourea
Quercetin	fluorine	carbamate	imidazole	BF <sub>4</sub>	N-SO <sub>2</sub>	thiourea
Quercetin	fluorine	carbamate	imidazole	BF <sub>4</sub>	N-SO <sub>2</sub>	thiourea
Resveratrol	fluorine	carbamate	imidazole	BF <sub>4</sub>	N-SO <sub>2</sub>	thiourea
Resveratrol	fluorine	carbamate	imidazole	BF <sub>4</sub>	N-SO <sub>2</sub>	thiourea
Saccharin	fluorine	carbamate	imidazole	BF <sub>4</sub>	N-SO <sub>2</sub>	thiourea
Saccharin	fluorine	carbamate	imidazole	BF <sub>4</sub>	N-SO <sub>2</sub>	thiourea
Saccharin	fluorine	carbamate	imidazole	BF <sub>4</sub>	N-SO <sub>2</sub>	thiourea
Salicylic Acid	fluorine	carbamate	imidazole	BF <sub>4</sub>	N-SO <sub>2</sub>	thiourea
Salicylic Acid	fluorine	carbamate	imidazole	BF <sub>4</sub>	N-SO <sub>2</sub>	thiourea
Salicylic Acid, 4-amino	fluorine	carbamate	imidazole	BF <sub>4</sub>	N-SO <sub>2</sub>	thiourea
Salicylic Acid, 4-amino	carbamate	imidazole	BF <sub>4</sub>	BF <sub>4</sub>	N-SO <sub>2</sub>	thiourea
Salicylic Acid, 4-amino	fluorine	carbamate	imidazole	BF <sub>4</sub>	N-SO <sub>2</sub>	thiourea

TABLE II

Co-crystal Former		
Phenylalanine	iodine	
Phenylalanine	iodine	
Piperazine	iodine	
Procaine	iodine	
Procaine	iodine	
Proline	iodine	
Proline	iodine	
p-Toluenesulfonic acid		
Pyridoxamine	iodine	epoxide
Pyridoxamine	iodine	
Pyridoxamine		
Pyridoxine		
(4-Pyridoxic Acid)		
Pyridoxine	iodine	epoxide
(4-Pyridoxic Acid)	iodine	
Pyroglutamic acid	iodine	epoxide
Pyroglutamic acid	iodine	peroxide
Quercetin		
Quercetin		
Quercetin		
Resveratrol	iodine	
Resveratrol		
Saccharin	iodine	epoxide
Saccharin	iodine	peroxide
Saccharin		
Saccharin	iodine	
Saccharin	iodine	
Salicylic Acid	iodine	epoxide
Salicylic Acid	iodine	
Salicylic Acid, 4-amino	iodine	
Salicylic Acid, 4-amino	iodine	
Salicylic Acid, 4-amino	iodine	

TABLE II

Co-crystal Former	Co-crystal Former Functional Group	Interacting Group	thiol	amide	amine	aniline	phenol
Sebacic acid	Carboxylic Acid	alcohol	ketone	alcohol	amine	aniline	phenol
Serine	Carboxylic Acid	alcohol	ketone	amide	amine	aniline	phenol
Serine	Amine	alcohol	ketone	amide	amine	aniline	phenol
Serine	Alcohol	alcohol	ketone	amide	amine	aniline	phenol
Stearic acid	Carboxylic Acid	alcohol	ketone	amide	amine	aniline	phenol
Succinic Acid	Carboxylic Acid	alcohol	ketone	amide	amine	aniline	phenol
Tartaric Acid	Carboxylic Acid	alcohol	ketone	amide	amine	aniline	phenol
Threonine	Amine	alcohol	ketone	amide	amine	aniline	phenol
Threonine	Carboxylic Acid	alcohol	ketone	amide	amine	aniline	phenol
Threonine	alcohol	alcohol	ketone	amide	amine	aniline	phenol
Tris	Amine	alcohol	ketone	amide	amine	aniline	phenol
Tris	Alcohol	alcohol	ketone	amide	amine	aniline	phenol
Tryptophan	Amine	alcohol	ketone	amide	amine	aniline	phenol
Tryptophan	Carboxylic Acid	alcohol	ketone	amide	amine	aniline	phenol
Tryptophan	Indole	*alcohol	pyridinium	*amide	nitro	*amine	*carboxylic acid
Tyrosine	Amine	alcohol	ketone	amide	amine	aniline	phenol
Tyrosine	Carboxylic Acid	alcohol	ketone	amide	amine	aniline	phenol
Tyrosine	Alcohol	alcohol	ketone	amide	amine	aniline	phenol
Urea	Ketone	alcohol	ketone	amide	amine	aniline	phenol
Urea	Amine	alcohol	ketone	amide	amine	aniline	phenol
Urea	Amide	alcohol	ketone	amide	amine	aniline	phenol
Valine	Amine	alcohol	ketone	amide	amine	aniline	phenol
Valine	Carboxylic Acid	alcohol	ketone	amide	amine	aniline	phenol
Vitamin K5	Amine	alcohol	ketone	amide	amine	aniline	phenol
Vitamin K5	Alcohol	alcohol	ketone	amide	amine	aniline	phenol
Xylitol	Alcohol	alcohol	ketone	amide	amine	aniline	phenol



Co-crystal Former	phosphate	sulfate	sulfone	nitrate	pyridine	carboxylic acid	metals
Sebacic acid	phosphate	sulfate	sulfone	nitrate	pyridine	carboxylic acid	metals
Serine	phosphate	sulfate	sulfone	nitrate	pyridine	Carboxylic Acid	metals
Serine	phosphate	sulfate	sulfone	nitrate	pyridine	carboxilic acid	metals
Serine	phosphate	sulfate	sulfone	nitrate	pyridine	Carboxylic Acid	metals
Stearic acid	phosphate	sulfate	sulfone	nitrate	pyridine	carboxilic acid	metals
Succinic Acid	phosphate	sulfate	sulfone	nitrate	pyridine	Carboxylic Acid	metals
Tartaric Acid	phosphate	sulfate	sulfone	nitrate	pyridine	Carboxylic Acid	metals
Threonine	phosphate	sulfate	sulfone	nitrate	pyridine	carboxilic acid	metals
Threonine	phosphate	sulfate	sulfone	nitrate	pyridine	carboxilic acid	metals
Threonine	phosphate	sulfate	sulfone	nitrate	pyridine	Carboxylic Acid	metals
Tris	phosphate	sulfate	sulfone	nitrate	pyridine	carboxilic acid	metals
Tris	phosphate	sulfate	sulfone	nitrate	pyridine	Carboxylic Acid	metals
Tryptophan	phosphate	sulfate	sulfone	nitrate	pyridine	carboxilic acid	metals
Tryptophan	phosphate	sulfate	sulfone	nitrate	pyridine	carboxilic acid	metals
Tryptophan	*sulfonamide	*ketone	ether	triazole		oxime	*chlorine
Tyrosine	phosphate	sulfate	sulfone	nitrate	pyridine	carboxilic acid	metals
Tyrosine	phosphate	sulfate	sulfone	nitrate	pyridine	carboxilic acid	metals
Tyrosine	phosphate	sulfate	sulfone	nitrate	pyridine	Carboxylic Acid	metals
Urea	phosphate	sulfate	sulfone	nitrate	pyridine	Carboxylic Acid	metals
Urea	phosphate	sulfate	sulfone	nitrate	pyridine	carboxilic acid	metals
Urea	phosphate	sulfate	sulfone	nitrate	pyridine	Carboxylic Acid	metals
Valine	phosphate	sulfate	sulfone	nitrate	pyridine	carboxilic acid	metals
Valine	phosphate	sulfate	sulfone	nitrate	pyridine	carboxilic acid	metals
Vitamin K5	phosphate	sulfate	sulfone	nitrate	pyridine	carboxilic acid	metals
Vitamin K5	phosphate	sulfate	sulfone	nitrate	pyridine	carboxilic acid	metals
Xylitol	phosphate	sulfate	sulfone	nitrate	pyridine	Carboxylic Acid	metals

[illegible]

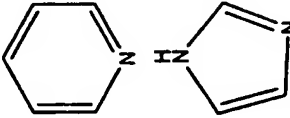
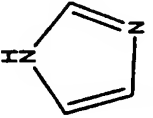
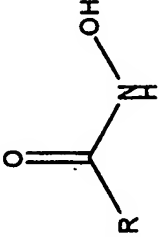


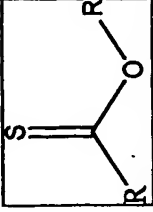
	s-heterocyclic	pyridine	ciano	n-heterocyclic	ketone	phosphate ester
Serine	s-heterocyclic	pyridine	ciano	n-heterocyclic	ketone	phosphate ester
Serine	s-heterocyclic	pyridine	ciano	n-heterocyclic	ketone	phosphate ester
Serine	s-heterocyclic	pyridine	ciano	n-heterocyclic	ketone	phosphate ester
Stearic acid	s-heterocyclic	pyridine	ciano	n-heterocyclic	ketone	phosphate ester
Succinic Acid	s-heterocyclic	pyridine	ciano	n-heterocyclic	ketone	phosphate ester
Tartaric Acid	s-heterocyclic	pyridine	ciano	n-heterocyclic	ketone	phosphate ester
Threonine	s-heterocyclic	pyridine	ciano	n-heterocyclic	ketone	phosphate ester
Threonine	s-heterocyclic	pyridine	ciano	n-heterocyclic	ketone	phosphate ester
Threonine	s-heterocyclic	pyridine	ciano	n-heterocyclic	ketone	phosphate ester
Tris	s-heterocyclic	pyridine	ciano	n-heterocyclic	ketone	phosphate ester
Tris	s-heterocyclic	pyridine	ciano	n-heterocyclic	ketone	phosphate ester
Tryptophan	s-heterocyclic	pyridine	ciano	n-heterocyclic	ketone	phosphate ester
Tryptophan	s-heterocyclic	pyridine	ciano	n-heterocyclic	ketone	phosphate ester
Tryptophan	* bromine	hydroxamic acid		ciano	carboxamide	* sulfonic acid
Tyrosine	s-heterocyclic	pyridine	ciano	n-heterocyclic	ketone	phosphate ester
Tyrosine	s-heterocyclic	pyridine	ciano	n-heterocyclic	ketone	phosphate ester
Tyrosine	s-heterocyclic	pyridine	ciano	n-heterocyclic	ketone	phosphate ester
Urea	s-heterocyclic	pyridine	ciano	n-heterocyclic	ketone	phosphate ester
Urea	s-heterocyclic	pyridine	ciano	n-heterocyclic	ketone	phosphate ester
Urea	s-heterocyclic	pyridine	ciano	n-heterocyclic	ketone	phosphate ester
Valine	s-heterocyclic	pyridine	ciano	n-heterocyclic	ketone	phosphate ester
Valine	s-heterocyclic	pyridine	ciano	n-heterocyclic	ketone	phosphate ester
Vitamin K5	s-heterocyclic	pyridine	ciano	n-heterocyclic	ketone	phosphate ester
Vitamin K5	s-heterocyclic	pyridine	ciano	n-heterocyclic	ketone	phosphate ester
Xylitol	s-heterocyclic	pyridine	ciano	n-heterocyclic	ketone	phosphate ester

Co-crystal Former	fluorine	carbamate	imidazole	BF <sub>4</sub>	N-SO <sub>2</sub>	thiourea
Sebacic acid	fluorine	carbamate	imidazole	BF <sub>4</sub>	N-SO <sub>2</sub>	thiourea
Serine	fluorine	carbamate	imidazole	BF <sub>4</sub>	N-SO <sub>2</sub>	thiourea
Serine	fluorine	carbamate	imidazole	BF <sub>4</sub>	N-SO <sub>2</sub>	thiourea
Serine	fluorine	carbamate	imidazole	BF <sub>4</sub>	N-SO <sub>2</sub>	thiourea
Stearic acid	fluorine	carbamate	imidazole	BF <sub>4</sub>	N-SO <sub>2</sub>	thiourea
Succinic Acid	fluorine	carbamate	imidazole	BF <sub>4</sub>	N-SO <sub>2</sub>	thiourea
Tartaric Acid	fluorine	carbamate	imidazole	BF <sub>4</sub>	N-SO <sub>2</sub>	thiourea
Threonine	fluorine	carbamate	imidazole	BF <sub>4</sub>	N-SO <sub>2</sub>	thiourea
Threonine	fluorine	carbamate	imidazole	BF <sub>4</sub>	N-SO <sub>2</sub>	thiourea
Threonine	fluorine	carbamate	imidazole	BF <sub>4</sub>	N-SO <sub>2</sub>	thiourea
Tris	fluorine	carbamate	imidazole	BF <sub>4</sub>	N-SO <sub>2</sub>	thiourea
Tris	fluorine	carbamate	imidazole	BF <sub>4</sub>	N-SO <sub>2</sub>	thiourea
Tryptophan	fluorine	carbamate	imidazole	BF <sub>4</sub>	N-SO <sub>2</sub>	thiourea
Tryptophan	fluorine	carbamate	imidazole	BF <sub>4</sub>	N-SO <sub>2</sub>	thiourea
Tryptophan	N-oxide	ester	ether	fluorine	dithiadiazocyclopentadienyl	thiourea
Tyrosine	fluorine	carbamate	imidazole	BF <sub>4</sub>	N-SO <sub>2</sub>	thiourea
Tyrosine	fluorine	carbamate	imidazole	BF <sub>4</sub>	N-SO <sub>2</sub>	thiourea
Tyrosine	fluorine	carbamate	imidazole	BF <sub>4</sub>	N-SO <sub>2</sub>	thiourea
Urea	fluorine	carbamate	imidazole	BF <sub>4</sub>	N-SO <sub>2</sub>	thiourea
Urea	fluorine	carbamate	imidazole	BF <sub>4</sub>	N-SO <sub>2</sub>	thiourea
Urea	fluorine	carbamate	imidazole	BF <sub>4</sub>	N-SO <sub>2</sub>	thiourea
Valine	fluorine	carbamate	imidazole	BF <sub>4</sub>	N-SO <sub>2</sub>	thiourea
Valine	fluorine	carbamate	imidazole	BF <sub>4</sub>	N-SO <sub>2</sub>	thiourea
Vitamin K5	fluorine	carbamate	imidazole	BF <sub>4</sub>	N-SO <sub>2</sub>	thiourea
Vitamin K5	fluorine	carbamate	imidazole	BF <sub>4</sub>	N-SO <sub>2</sub>	thiourea
Xylitol	fluorine	carbamate	imidazole	BF <sub>4</sub>	N-SO <sub>2</sub>	thiourea

TABLE II

<b>Co-crystal Former</b>	
Sebacic acid	iodine
Serine	iodine
Serine	iodine
Serine	iodine epoxide
Stearic acid	iodine
Succinic Acid	iodine
Tartaric Acid	iodine
Threonine	iodine
Threonine	iodine
Threonine	iodine epoxide
Tris	iodine
Tris	iodine epoxide
Tryptophan	iodine
Tryptophan	iodine
Tryptophan	iodine
Tyrosine	iodine
Tyrosine	iodine
Tyrosine	iodine epoxide
Urea	iodine
Urea	iodine
Urea	iodine epoxide peroxide
Valine	iodine
Valine	iodine
Vitamin K5	iodine
Vitamin K5	iodine epoxide
Xylitol	iodine epoxide

TABLE III

Functional Group	Functional Group Structure	Interacting Group					
pyridine		*alcohol	pyridinium	*amide	nitro	*amine	*carboxylic acid
imidazole		imidazole	chlorine	acetamide	carboxylate	thione	nitro
Hydroxamic acid		hydroxamic acid	alcohol	phosphinic ester	alkane	pyridine	amide
peroxide		ester	peroxide	amide	ether	alkane	N-heterocycle
epoxide		alkane	bromine	alcohol	ester	epoxide	amide
thioester		aromatic	thioester	alkane	sulfamide	hydroxy	bromine

[illegible]

TABLE III

Functional Group	thiol	n-heterocyclic ring	thionedisulfide	pyrrolidindione	iodine	hydrazone	thiocyanate	*bromine	aromatic
pyridine									
imidazole	chlorine	sulfonyl	sulfoxide	amide	fluorine	sulfonate ester			
Hydroxamic acid									
peroxide	phosphine oxide	sulfonamide	aniline						
epoxide		ammonium	fluorine	nitro	amine	cyano			
thioester									



TABLE III

Functional Group	hydroxamic acid	cyano	carboxamide	*sulfonic acid	*phosphoric acid	N-oxide	ester	ether	fluorine	acetate	thione
pyridine											
imidazole											
Hydroxamic acid											
peroxide											
epoxide											
thioester											

TABLE III

Functional Group						
pyridine	dithiadiazocyclopentadienyl					
imidazole						
Hydroxamic acid						
peroxide						
epoxide						
thioester						

TABLE III

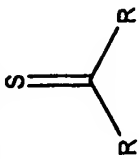

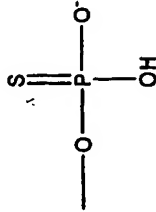
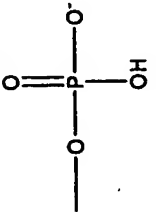
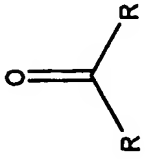
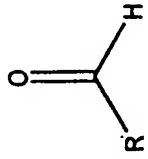

Functional Group	Functional Group Structure	Interacting Group									
thioketone		alkane	thioketone	ketone	SULFAMIDE	AMINE	thiol				
nitrate ester		aromatic	amide	alkane	chlorine	nitrate ester	bromine				
Thiophosphate ester-O		amine	imidazole	cyclic amide							
Phosphate ester		aromatic	alcohol	phosphate ester	aromatic N-ring	pyridine	aniline				
Ketone		alcohol	ketone	thiol	amide	amine	aniline				
Aldehyde		alcohol	ketone	thiol	amide	amine	aniline				
Thiol		carboxylic acid	sodium	aldehyde	ketone	aromatic-N	cadmium				

TABLE III

Functional Group	sulfoxide	oxo	chlorine	bromine	AROMATIC	alkene	sulfone	iodine	AZOXY
thioketone									
nitrate ester	alcohol	ether	acetate						
Thiophosphate ester-O									
Phosphate ester	amine		sodium	potassium	lithium	carboxylic acid	amide	alkane	
Ketone	phenol	phosphate	sulfate	sulfone	nitrate	pyridine	aromatic	carboxylic acid	metals
Aldehyde	phenol	phosphate	sulfate	sulfone	nitrate	pyridine	aromatic	carboxylic acid	metals
Thiol	alkane	arsenic	chlorine	alcohol	potassium	Ru	aromatic	Rb	Sb

TABLE III

Functional Group	potassium epoxide	n-oxide	cyano	iron	cobalt	amine	sulfate	s-heterocyclic
thioketone								
nitrate ester								
Thiophosphate ester-O								
Phosphate ester								
Ketone	aldehyde ester	ether	cyano		furan	bromine	chlorine	s-heterocyclic
Aldehyde	aldehyde ester	ether	cyano		furan	bromine	chlorine	s-heterocyclic
Thiol								

[illegible]

TABLE III

Functional Group						
thio ketone						
nitrate ester						
Thiophosphate ester-O						
Phosphate ester						
Ketone	aromatic	N-SO <sub>2</sub>	thiourea	iodine		
Aldehyde	aromatic	N-SO <sub>2</sub>	thiourea	iodine	epoxide	
Thiol						

TABLE III

Functional Group	Functional Group Structure	Interacting Group									
Alcohol	$R-OH$	alcohol	ketone	thiol	amide	amine	aromatic_s	Sp2 amine	amine	aniline	
Thioether	$R-S-R$	aromatic-N	amide								
Ether	$R-O-R$	aromatic-N	amide	amine	amide	amine	aromatic_s	Sp2 amine	amine	sulfoxide	
Cyanamide	$N-C\equiv N$	cyano	amine	potassium	aromatic-N	bromine				sodium	
Thiocyanate	$S-C\equiv N$	aromatic-S	ester	ether							
sp2 amine	$R_2C=NH$	thioether	ether	metals	MoOCl4	BF4				bromine	
Amine primary	$R-NH_2$	alcohol	ketone	thiol	amide	amine				aniline	



TABLE III

Functional Group	phenol	phosphate	sulfate	sulfone	nitrate	pyridine	aromatic	carboxylic acid	metals
Alcohol									
Thioether	chlorate	chlorine	alkyne	cyano	ester	amine	nitro	nitrate	bromine
Ether	chlorate	chlorine	alkyne	cyano	ester	amine	nitro	nitrate	bromine
Cyanamide	imidazole	ether	n-heterocyclic	alcohol	cesium	Ag			
Thiocyanate									
sp <sup>2</sup> amine	chlorine		Sp <sup>2</sup> amine	sulfate	Osmium				
Amine primary	phenol	phosphate	sulfate	sulfone	nitrate	pyridine	aromatic	carboxylic acid	metals

TABLE III

Functional Group	aldehyde	ester	ether	cyano	Ag	Se	bromine	chlorine	s-heterocyclic
Alcohol									
Thioether	aldehyde	ketone	peroxide	epoxide	Ag	Se	heterocyclic-S	iodine	ester
Ether	aldehyde	ketone	peroxide	epoxide	Ag	Se	heterocyclic-S	iodine	ester
Cyanamide									
Thiocyanate									
sp <sup>2</sup> amine									
Amine primary	aldehyde	ester	ether	cyano		furan	bromine	chlorine	s-heterocyclic

TABLE III

Functional Group	pyridine	cyano	n-heterocyclic	ketone	phosphate ester	fluorine	carbamate	imidazole	BF <sub>4</sub>	alkane
Alcohol										
Thioether	ether	carboxylic acid	sulfate	sulfone	alkane	alcohol	phosphate			
Ether	ether	carboxylic acid	sulfate	sulfone	alkane	alcohol	phosphate	cyanamide		
Cyanamide										
Thiocyanate										
sP <sub>2</sub> amine										
Amine primary	pyridine	cyano	n-heterocyclic	ketone	phosphate ester	fluorine	carbamate	imidazole	BF <sub>4</sub>	alkane

TABLE III

Functional Group	aromatic	N-SO <sub>2</sub>	thiourea	iodine	epoxide
Alcohol					
Thioether					
Ether					
Cyanamide					
Thiocyanate					
sp <sup>2</sup> amine					
Amine primary	aromatic	N-SO <sub>2</sub>	thiourea	iodine	

TABLE III

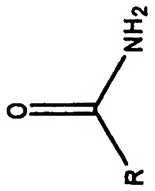
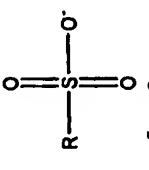
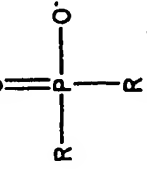
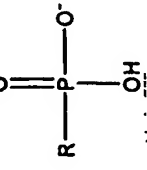
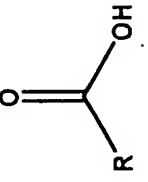
Functional Group	Functional Group Structure	Interacting Group						
Amine secondary	$R_2-NH$	alcohol	ketone	thiol	amide	amine	aniline	
Amine tertiary	$R_3-N$	alcohol	ketone	thiol	amide	amine	aniline	
Amide		alcohol	ketone	thiol	amide	amine	aniline	
Sulfonic acid		pyridine	ketone	aldehyde	ether	ester	amide	
Phosphonic acid		alkane	potassium	lithium	n-heterocyclic	oxime	amide	
Phosphonic acid		alkane	potassium	lithium	n-heterocyclic	oxime	amide	
Carboxylic acid		alcohol	ketone	thiol	amide	amine	aniline	

TABLE III

Functional Group	phenol	phosphate	sulfate	sulfone	nitrate	pyridine	aromatic	carboxylic acid	metals
Amine secondary	phenol	phosphate	sulfate	sulfone	nitrate	pyridine	aromatic	carboxylic acid	metals
Amine tertiary	phenol	phosphate	sulfate	sulfone	nitrate	pyridine	aromatic	carboxylic acid	metals
Amide	phenol	phosphate	sulfate	sulfone	nitrate	pyridine	aromatic	carboxylic acid	metals
Sulfonic acid	carboxylic acid	amine	metals	thioether		sulfate	alcohol		
Phosphinic acid	phenol	aromatic	amine	alcohol		metals			
Phosphonic acid	phenol	aromatic	amine	alcohol		metals	carboxylic acid	Sp2 amine	aniline
Carboxylic acid	phenol	phosphate	sulfate	sulfone	nitrate	pyridine	aromatic	carboxylic acid	metals

TABLE III

Functional Group	aldehyde	ester	ether	cyano	aldehyde	ketone	aldehyde	imidazole	furan	bromine	chlorine	s-heterocyclic
Amine secondary												
Amine tertiary												
Amide												
Sulfonic acid												
Phosphinic acid												
Phosphonic acid												
Carboxylic acid												

TABLE III

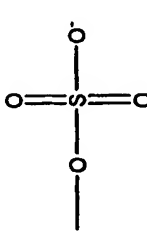
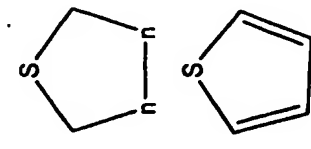
Functional Group	pyridine	cyano	n-heterocyclic	ketone	phosphate ester	fluorine	carbamate	imidazole	BF4	alkane
Amine secondary	pyridine	cyano	n-heterocyclic	ketone	phosphate ester	fluorine	carbamate	imidazole	BF4	alkane
Amine tertiary	pyridine	cyano	n-heterocyclic	ketone	phosphate ester	fluorine	carbamate	imidazole	BF4	alkane
Amide	pyridine	cyano	n-heterocyclic	ketone	phosphate ester	fluorine	carbamate	imidazole	BF4	alkane
Sulfonic acid										
Phosphinic acid										
Phosphonic acid										
Carboxylic acid	pyridine	cyano	n-heterocyclic	ketone	phosphate ester	fluorine	carbamate	imidazole	BF4	alkane



TABLE III

Functional Group					
Amine secondary	aromatic	N-SO <sub>2</sub>	thiourea	iodine	
Amine tertiary	aromatic	N-SO <sub>2</sub>	thiourea	iodine	
Amide	aromatic	N-SO <sub>2</sub>	thiourea	iodine	epoxide peroxide
Sulfonic acid					
Phosphinic acid					
Phosphonic acid					
Carboxylic acid	aromatic	N-SO <sub>2</sub>	thiourea	iodine	

TABLE III

Functional Group	Functional Group Structure	Interacting Group							
Sulfate ester									
Oxime	$C \equiv N - OH$	pyridine	ketone	aldehyde	ether	ester	amide		
Nitrile	$-C \equiv N$	alcohol	alkane	amine	amide	ether	ester		
		metal	ketone	phenol	alcohol		cyano		
Diazo	$RH_2C - N \equiv N - CH_2R$								
		Oxime							
Nitro	$NO_2$	pyridine	ketone	aldehyde	ether	ester	amide		
S-heterocyclic ring		alcohol	thio ketone	thio ether	s-heterocyclic	ketone	aromatic		
Thiophene		chlorine	fluorine	amide	ketone	NO	SO		

Functional Group	metals	thioether	sulfate	alcohol	thioketone	cyano	n-oxide
Sulfate ester	carboxylic acid/amine						
Oxime	pyridine	chlorine	Sp <sup>2</sup> -N	diazo	thioketone	cyano	n-oxide
Nitrile	amine	amide	alkane	carboxylic acid	chlorine	n-heterocyclic	aromatic
Diazo							
Nitro	carboxylic acid/amine	thioether	sulfate	alcohol			
S-heterocyclic ring	amine	BF <sub>4</sub>	sulfate	ester	NO	ether	amide
Thionene	CO						

TABLE III

[illegible]

### TABLE III

<u>Functional Group</u>
Sulfate ester
Oxime
Nitrile
Diazo
Nitro
S-heterocyclic ring
Thiophene

TABLE III

Functional Group							
Sulfate ester							
Oxime							
Nitrile							
Diazo							
Nitro							
S-heterocyclic ring							
Thiophene							

TABLE III

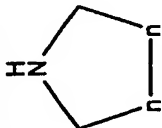
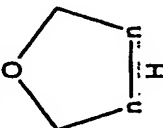
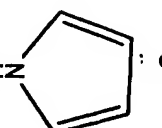
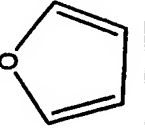
Functional Group	Functional Group Structure	Interacting Group						
N-heterocyclic ring		alcohol	thioether	thioether	s-heterocyclic	ketone	aromatic	
O-heterocyclic ring		alcohol	thioether	thioether	s-heterocyclic	ketone	aromatic	
Pyrrole		chlorine	fluorine	amide	ketone	NO	SO	
Furan		s-heterocyclic						

TABLE III

Functional Group										
N-heterocyclic ring	alkene	amine	chlorine	BF <sub>4</sub>	sulfate	ester	NO	ether	amide	
O-heterocyclic ring	alkene	amine	chlorine	BF <sub>4</sub>	sulfate	ester	NO	ether	amide	
Pyrrole	CO	imidazole	pyridine	n-aromatic	aldehyde	carboxylic acid	sulfate	chlorine	bromine	
Furan										



TABLE III

Functional Group						
N-heterocyclic ring	iodine	carboxylic acid	sodium	cyano	chloride	aldehyde
O-heterocyclic ring	iodine	carboxylic acid	sodium	cyano	chloride	aldehyde
Pyrrole	oxime	alcohol	phenol	ester	ether	
Furan						



Functional Group	Structure	Example
N-heterocyclic ring		
O-heterocyclic ring		
Pyrrrole		
Furan		

### TABLE III

Functional Group	Structure	Example
N-heterocyclic ring		
O-heterocyclic ring		
Pyrrole		
Furan		

Table IV

API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
(-)-amlodipine	3,5-Pyridinedicarboxylic acid, 2-((2-aminoethoxy)methyl)-4-(2-chlorophenyl)-1,4-dihydro-6-methyl-, 3-ethyl-5-methyl ester, (S)-, [CAS]	103129-82-4	WO 9310779	Antihypertensive, other	Hypertension, general
(-)-halofenate	(-)-Benzenecacetic acid, 4-chloro-Alpha-[(trifluoromethyl)-phenoxy]-, 2-(acetylamino)ethyl ester		US 6262118	Antidiabetic	Diabetes, Type II
(R)-salbutamol	1,3-Benzenedimethanol, Alpha1-(((1,1-dimethylethyl)amino)methyl)-4-hydroxy-, [CAS]			Formulation, modified-release, <=24hr	Asthma
(R)-salbutamol	1,3-Benzenedimethanol, Alpha1-(((1,1-dimethylethyl)amino)methyl)-4-hydroxy-, [CAS]	34391-04-3	US 5547994	Antiasthma	Asthma
(R,R)-formoterol	Formamide, N-(2-hydroxy-5-(1-hydroxy-2-((2-(4-methoxyphenyl)-1-methylethyl)amino)ethyl)phenyl)- (R- (R*,R*)), [CAS]	67346-49-0	US 5795564	Antiasthma	Asthma
(S)-doxazosin	(S)-1-(4-amino-6,7-dimethoxy-2-quinazolinyl)-4-(1,4-benzodioxan-2-yl)carbonyl)piperazine	70918-18-2	WO 9409785	Prostate disorders	Benign prostatic hyperplasia
(S)-flouxetine	Benzenepropanamide, N-methyl-Gamma-(4-(trifluoromethyl)phenoxy)- (S)			Antimigraine	Migraine
(S)-oxybutymin	Benzenecacetic acid, Alpha-cyclohexyl-Alpha-hydroxy-, 4-(diethylamino)-2-butynyl ester, (S)-, [CAS]	119618-22-3 524-42-5 68-96-2		Urological	Incontinence
1,2-Naphthoquinone 17 $\alpha$ -		58-18-4			
Hydroxyprogesterone 17-Methyltestosterone	Platinum-195m, diamminedichloro, (SP-4-2)-				
195mPt-cisplatin 1 $\alpha$ -		41294-56-8	US 6074626	Anticancer, alkylating	Cancer, liver
Hydroxycholecalciferol					

Table IV

API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
1-Naphthyl Salicylate		550-97-0			
1-Naphthylamine-4-sulfonic Acid		84-86-6			
1-Theobromineacetic Acid		5614-56-2			
2,4,6-Tribromo-m-cresol		4619-74-3			
2,6-Diamino-2'-butyloxy-3,5'-azopyridine		617-19-6			
21-Acetoxypregnenolone		566-78-9			
2-Amino-4-picoline		695-34-1			
2-Aminothiazole		96-50-4			
2-ethoxybenzoic acid	2-Ethoxybenzoic acid				
2-Naphthol		135-19-3	DE 5134001	Analgesic, NSAID	Pain, general
2-Naphthyl Benzoate		93-44-7			
2-Naphthyl Lactate		93-43-6			
2-Naphthyl Salicylate		613-78-5			
2-p-Sulfanilylanilinoethanol		80-02-4			
2-Thiouracil		141-90-2			
3',3'',5',5''-Tetrabromophenolphthalein		76-62-0			
3-Amino-4-hydroxybutyric Acid		589-44-6			
3-Bromo-d-camphor		76-29-9			
3-Hydroxycamphor		10373-81-6			
3-O-Lauroylpyridoxol Diacetate		1562-13-6			
3-Pentadecylcatechol		492-89-7			

Table IV

API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
3-Quinuclidinol		1619-34-7			
4,4'-Oxydi-2-butanol		821-33-0			
4,4'-Sulfinyldianiline		119-59-5			
4-Amino-3-hydroxybutyric Acid		352-21-6			
4-Amino-3-phenylbutyric Acid		1078-21-3			
4-aminosalicylic acid	Benzoic acid, 4-amino-2-hydroxy- [CAS]	65-49-6		GI inflammatory/bowel disorders	Inflammatory bowel disease
4-Chloro-m-cresol		59-50-7			
4-Hexylresorcinol		136-77-6			
4-Salicyloylmorpholine		3202-84-4			
5'-Nitro-2'-propoxyacetanilide		553-20-8			
5-aminolevulinic acid,	Pentanoic acid, 5-amino-4-oxo- [CAS]	106-60-5		Dermatological	Keratosis
5-azacitidine	1,3,5-Triazin-2(1H)-one, 4-amino-1-β-D-ribofuranosyl- [CAS]	320-67-2		Anticancer, antimetabolite	Myelodysplastic syndrome
5-		5798-94-7			
Bromosalicylhydroxamic Acid					
5-FU	2-(4-Amino-3-methylphenyl)-6-hydroxybenzothiazole			Anticancer, other	Cancer, breast
5-FU	2,4(1H,3H)-Pyrimidinedione, 5-fluoro [CAS]	51-21-8		Formulation, parenteral, targeted	Cancer, general
5-HT3 antagonists			US 6037360	Male sexual dysfunction	Premature ejaculation
6-Azauridine		54-25-1			
6-Mercaptopurine		50-44-2			
8-Hydroxyquinoline		148-24-3			
9-Aminocamptothecin	N-[2-(2,2,2-Trifluoro-1-hydroxy-1-trifluoromethyl-ethyl)-naphthalen-1-yl] amide	91421-43-1			
A-151892				Urological	Overactive bladder

Table IV

API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
$\alpha$ -Antitrypsin		9041-92-3			
A-5021	6H-Purin-6-one, 2-amino-9-(((1S,2R)-1,2-bis(hydroxymethyl)cyclopropyl)methyl)-1,9-dihydro- [CAS]	145512-85-2		Antiviral, other	Infection, varicella zoster virus
abacavir	2-Cyclopentene-1-methanol, 4-(2-amino-6-(cyclopropylamino)-9H-purin-9-yl)-, (1S-cis)- [CAS]	138470-78-5 188062-50-2	EP 434450	Antiviral, anti-HIV	Infection, HIV/AIDS
abaperidone	7-[3-(4-(6-Fluoro-1,2-benzisoxazol-3-yl)piperidin-1-yl)propoxy]-3-(hydroxymethyl)chromen-4-one	183849-43-6	WO 9632389	Neuroleptic	Schizophrenia
abarelix	D-Alaninamide, N-acetyl-3-(2-naphthalenyl)-D-alanyl-4-chloro-D-phenylalanyl-3-(3-pyridinyl)-D-alanyl-L-seryl-N-methyl-L-tyrosyl-D-asparagyl-L-leucyl-N6-(1-methylethyl)-L-tyrosyl-L-protyl- [CAS]	183552-38-7 143653-53-6 111841-85-1	US 5843902	Anticancer, hormonal	Cancer, prostate
Abciximab					
Abecarnil					
abetimus	Androsta-5,16-dien-3-ol, 17-(3-pyridinyl)-acetate (ester), (9S)- [CAS]	169147-32-4	US 5552391	Immunosuppressant	Lupus erythematosus, systemic
abiraterone					
$\alpha$ -Bisabolol					
ABLC	Amphotericin B [CAS]	154229-18-2 515-69-5 1397-89-3 30652-87-0	GB 2265624	Anticancer, hormonal	Cancer, prostate
ABT-751	Benzenesulfonamide, N-[2-[(4-hydroxyphenyl)amino]-3-pyridinyl]-4-methoxy- [CAS]	141430-65-1	EP 472053	Formulation, conjugate, carbohydrate	Infection, Candida, general
AC-5216	N-benzyl-N-ethyl-2-(7,8-dihydro-7-methyl-8-oxo-2-phenyl-9H-purin-9-yl)acetamide			Anticancer, other	Cancer, general
Acadesine					
acamprosate	1-Propanesulfonic acid, 3-(acetylamino)- [CAS]	2627-69-2 77337-76-9 77337-73-6	GB 2051789	Anxiolytic	Anxiety, general
Acamprosate				Dependence treatment	Addiction, alcohol



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Table IV

API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
Acetophenone		98-86-2			
Acetosulfone		128-12-1			
acetoxolone	Olean-12-en-30-oic acid, 3 $\beta$ -hydroxy-11-oxo-acetate, aluminium salt [CAS]	29728-34-5			
Acetrisoate		6277-14-1	US 3764618	Antiulcer	
Acetyl		129-63-5			
Sulfamethoxypyrazine		3590-05-4			
Acetylcarnitine		14992-62-2			
Acetylcholine		66-23-9			
Acetylcholine		60-31-1			
Acetylcysteine		616-91-1			
Acetylleucine		149-90-6			
Monoethanolamine					
Acetylpheneturide		13402-08-9			
acetylsalicylic acid		50-78-2	530		
$\alpha$ -Chloralose	Benzoic acid, 2-(acetyloxy)- [CAS]	75-6		Formulation, optimized, microencapsulate	Pain, general
acidovir	6H-Purin-6-one, 2-amino-1,9-dihydro-9-[(2-hydroxyethoxy)methyl]- [CAS]	15879-93-3			
Acifran		59277-89-3			
acipimox		72420-38-3			
acitazanolast	Pyrazinecarboxylic acid, 5-methyl-, 4-oxide [CAS]	51037-30-0	GB 1361967	Hypolipaemic/Antiatherosclerosis	Hyperlipidaemia, general
actretin	Acetic acid, oxo[[3-(1H-tetrazol-5-yl)phenyl]amino]- [CAS]	114607-46-4	EP 256507	Ophthalmological	Conjunctivitis
adarubicin	2,4,6,8-Nonatetraenoic acid, 9-(4-methoxy-2,3,6-trimethylphenyl)-3,7-dimethyl-, (all-E)- [CAS]	55079-83-9	GB 1468401	Antipsoriasis	Psoriasis
Aclatanilum Napadisilate		57576-44-0			
Aconitine		75443-99-1			
Acranif®		55077-30-0	US 3988315	Anticancer, antibiotic	
Acriflavine		302-27-2			
Acrisorcin		1684-42-0			
		8048-52-0			
		7527-91-5			

Table IV

API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
acrivastine	2-Propenoic acid, 3-[6-[1-(4-methylphenyl)-3-(1-pyrrolidinyl)-1-propenyl]-2-pyridinyl]-, (E,E)- [CAS]	87848-99-5	EP 85959	Antipruritic/inflamm, allergic	Rhinitis, allergic, general
acrivastine + pseudoephedrine	Benzenemethanol, Alpha-[1-(methylamino)ethyl]-, hydrochloride, [S-(R*, R*)]-, mixture with 2-Propenoic acid, 3-[6-[1-(4-methylphenyl)-3-(1-pyrrolidinyl)-1-propenyl]-2-pyridinyl]-, (E,E)-, 3,3-dimethyl-1-propylamide HCl monocoarboxamide actagardine	18699-02-0 9002-60-2 59277-89-3		Antiallergic, non-asthma Peptide antibiotic	Rhinitis, allergic, seasonal Infection, general
actagardine derivative <b>Actarit</b> <b>ACTH</b> <b>Acyclovir</b>					
adapalene ADCON-L <b>Adefovir</b>	2-Naphthalenecarboxylic acid, 6-(4-methoxy-3-tricyclo[3.3.1.1 <sup>3,7</sup> dec-1-ylphenyl]- [CAS] GL 402 [CAS]	106885-40-9 137802-74-5 106941-25-7	EP 199636	Antiacne Formulation, other	Acne Fibrosis, epidural
adefovir dipivoxil Adenoscan <b>Adenosine Triphosphate</b>	Propanoic acid, 2,2-dimethyl-, (((2-(6-amino-9H-purin-9-yl)ethoxy)methyl)phosphinyldene)bis(oxy)methylene)ester- [CAS] 6-Amino-9-β-D-ribofuranosyl-9H-purine [CAS]	142340-99-6 58-61-7 56-65-5	EP 205826	Antiviral, other Imaging agent	Infection, hepatitis-B virus Diagnosis, coronary
<b>ADEPT</b> <b>Adinazolam</b> <b>Adiphenine</b> ADL-10-0101 <b>Adrafinil</b> <b>Adrenalone</b> <b>Adrenochrome</b>		156079-88-8 37115-32-5 64-95-9 63547-13-7 99-45-6 54-06-8	WO 9732857	Immunoconjugate, other Analgesic, other	Cancer, colorectal Pain, general
adrogolide	Benzo(f)thieno(2,3-c)quinoline-9,10-diol, 4,5,6,7,11b-hexahydro-2-propyl-, diacetate (ester), hydrochloride (5aR-trans)- [CAS]	166591-11-3 171752-56-0	US 5597832	Dependence treatment	Addiction, cocaine

Table IV

API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
AEOL-10150 AET	Benzeneacetic acid, Alpha-methyl-4-(2-methylpropyl)-, 2-methoxyphenyl ester [CAS]	56-10-0 93-54-9	US 6103714	Neuroprotective	Unspecified
$\alpha$ -Ethylbenzyl Alcohol					
AF-2259	1H-Indole-3-acetamide, 1-(2,2-diethoxyethyl)-2,3-dihydro-N-(4-methylphenyl)-3-(((4-methylphenyl)amino)carbonyl)amino)-2-oxo-, (3R)- [CAS]	66332-77-2 56287-74-2	DE 2726435	Anti-inflammatory	Inflammation, general
Aflotalone					
AG-041R	N-(5-(2-(2-amino-4(3H)-oxo-5,6,7,8-tetrahydropyrido[2,3-d]pyrimidin-6-yl)ethyl)-4-methylthieno-2-yl)glutamic acid [CAS]	199800-49-2	WO 9419322	Alimentary/Metabolic, other	Unspecified
AG-2037					
$\alpha$ -Glucose-1-phosphate		59-56-3		Anticancer, antimetabolite	Cancer, general
AGN-194310	Benzoic acid, 4-((4-(4-ethylphenyl)-2,2-dimethyl-2H-1-benzothioopyran-6-yl)ethynyl)- [CAS]	229961-45-9	WO 9709297	Dermatological	Psoriasis
agomelatine	Acetamide, N-(2-(7-methoxy-1-naphthalenyl)ethyl)- [CAS]	138112-76-2 518-61-6	EP 447285	Antidepressant	Sleep disorder, general
Ahistan AHL-157	9H-Purine-9-propanamide, 1,6-dihydro-6-oxo-N-(3-(2-oxo-1-pyrrolidinyl)propyl)- [CAS]		US 5411972	Hypolipaeic/Antiatherosclerosis	Atherosclerosis
AIT-034	N-[2-(5-Hydroxy-1H-indol-3-yl)ethyl]-3-(6-oxo-6,9-dihydro-1H-purin-9-yl)propanamide	138117-48-3	US 5447939	Cognition enhancer	Dementia, senile, general
AIT-202			WO 9957120	Antidepressant	Unspecified

Table IV

API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
AJ-9877	Acetic acid, ((3-((2R)-2-(((2R)-2-(3-chlorophenyl)-2-hydroxyethyl)amino)propyl)-1H-indol-7-yl)oxy)- [CAS]	244081-42-3		Antidiabetic	Diabetes, Type II Motility dysfunction, GI, general
AJG-049		12774360	WO 9733885	Gastroprokinetic	
Ajmaline		74258-86-9			
Alacepril					
albaconazole	4-(3H)-Quinazolinone, 7-chloro-3-((1R,2R)-2-(2,4-difluorophenyl)-2-hydroxy-1-methyl-3-((1H-1,2,4-triazol-1-yl)propyl)- [CAS]	187949-02-6	WO 9705131	Antifungal	Infection, Candida, general
albendazole	Carbamic acid, [5-(propylthio)-1H-benzimidazol-2-yl]-, methyl ester [CAS]	54029-12-8 54965-21-8 18559-94-9	GB 1464326	Anthelmintic	Infection, helminth, general
Albuterol		830-89-7			
Albutolol					
alclufenac	Benzeneacetic acid, 3-chloro-4-(2-propenyl)oxy)- [CAS]	22131-79-9	GB 1174535	Anti-inflammatory	
alclometasone	Pregna-1,4-diene-3,20-dione, 7-chloro-11-hydroxy-16-methyl-17,21-bis(1-oxopropoxy)-, (7Alpha, 11beta, 16Alpha)- [CAS]	66734-13-2 67452-97-5	US 4124707	Antipruritic/inflamm, allergic	Inflammation, dermal
Alcuronium		23214-96-2			
Aldioxa		5579-81-7			
Aldol		107-89-1			
Aldosterone		52-39-1			
alendronate	Phosphonic acid, (4-amino-1-hydroxybutylidene)bis-[CAS]	121288-17-5 129318-43-0	GB 2118042	Osteoporosis treatment	Osteoporosis
Alendronic Acid		66376-36-1			
Alexidine		22573-93-9			
alfacalcidol	9,10-Secocholesta-5,7,10(19)-triene-1,3-diol, (1Alpha,3beta,5Z,7E)- [CAS]	41294-56-8			
Alfadolone		23930-37-2			
Alfaxalone		23930-19-0			
Alfentanil		71195-58-9			
alfimeprase		259074-76-5		Fibrinolytic	Peripheral vascular disease

Table IV

API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
alfuzosin	2-Furancarboxamide, N-[3-[(4-amino-6,7-dimethoxy-2-quinazolinyl)methylamino]propyl]tetrahydr-o- [CAS]	81403-68-1 81403-80-7	GB 2013679	Prostate disorders	Benign prostatic hyperplasia
alfuzosin	2-Furancarboxamide, N-[3-[(4-amino-6,7-dimethoxy-2-quinazolinyl)methylamino]propyl]tetrahydr-o- [CAS]	81403-68-1 81403-80-7 595-77-7 24356-94-3		Formulation, modified-release, other	Benign prostatic hyperplasia
Algestone					
Algestone Acetophenide					
Algin		9005-38-3			
Alginate		143003-46-7			
Albendol		26750-81-2			
aliskiren	(2S,4S,5S,7S)-5-Amino-N-(2-carbamoyl-2-methylpropyl)-4-hydroxy-2-isopropyl-7-(4-methoxy-3-(3-methoxypropoxy)benzyl)-8-methylnonanamide	173334-57-1		Antihypertensive, renin system	Hypertension, general
alitretinoin	9-cis retinoic acid	31815300		Antipruritic/inflamm, allergic	Eczema, general
alizapride	1H-Benzotriazole-5-carboxamide, 6-methoxy-N-[1-(2-propenyl)-2-pyrrolidinyl]methyl- [CAS]	59338-93-1	GB 1475234	Antiemetic	Nausea and vomiting, general
Alkannin		517-88-4			
Alkofanone		7527-94-8			
Allantoin		97-59-6			
Allobarbitol		52-43-7			
Allopurinol		315-30-0			
Allyl isothiocyanate		57-06-7			
Allylestrenol		432-60-0			
almagate	Magnesium, [carbonato(2-)]heptahydroxy(aluminum)tri-, dihydrate [CAS]	66827-12-1 72526-11-5	US 4447417	Antacid/Antiflatulent	
alminopropfen	Benzeneacetic acid, Alpha-methyl-4-[(2-methyl-2-propenyl)amino]- [CAS]	39718-89-3	US 3957850	Analgesic, NSAID	

Table IV

API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
almitrine	1,3,5-Triazine-2,4-diamine, 6-[4-bis(4-fluorophenyl)methyl]-1-piperazinyl-N,N'-di-2-propenyl-, dimethanesulfonate [CAS]	27489-53-0 29608-49-9	GB 1256513	Respiratory	Bronchitis, chronic
almotriptan	Pyrolidine, 1-(((3-(2-(dimethylamino)ethyl)-1H-indol-5-yl)methyl)sulfonyl)- [CAS]	154323-57-6 481-72-1	WO 9402460	Antimigraine	Migraine
<b>Aloe-Emodin</b>					
<b>Alain</b>					
alosetron	2,3,4,5-Tetrahydro-5-methyl-2-[(5-methyl-1H-imidazol-4-yl)methyl]-1H-pyrido[4,3-b]indol-1-one [CAS]	122852-42-0 122852-69-1 132414-02-9	EP 306323 EP 470355	GI inflammatory/bowel disorders Antiviral, anti-HIV	Irritable bowel syndrome Infection, HIV/AIDS
alovudine	Thymidine, 3'-deoxy-3'-fluoro- [CAS]	25526-93-6 9014-67-9			Emphysema, alpha-1 antitrypsin deficiency
<b>Aloxiprin</b>					Parkinson's disease
Alpha-1 protease inhibitor	Ergocryptine, 9,10-dihydro-methanesulfonate (salt) [CAS]	29261-93-6 77-20-3	US 5780014	Formulation, inhalable, topical Formulation, other	Emphysema, alpha-1 antitrypsin deficiency Parkinson's disease
Alpha-dihydroergocryptine					
<b>Alphaprodine</b>					
<b>Alpidem</b>					
<b>Alipropride</b>					
alprazolam	4H-[1,2,4]Triazole[4,3-a][1,4]benzodiazepine, 8-chloro-1-methyl-6-phenyl- [CAS]	28981-97-7 13655-52-2	US 3987052	Anxiolytic	Anxiety, general
<b>Alprenolol</b>					
alsacide	Alpha1-17-Corticotropin, 1- $\beta$ -alanine-17-[N-(4-aminobutyl)-L-lysineamide]- [CAS]	34765-96-3	US 3749704	ACTH	Arthritis, rheumatoid
ALT-711	Thiazolium, 4,5-dimethyl-3-(2-oxo-2-phenylethyl)-, bromide [CAS]	181069-80-7 5588-16-9	WO 9622095	Symptomatic antidiabetic	Hypertension, general
<b>Althiazide</b>					
altinidine	Pyridine, 3-ethynyl-5-((2S)-1-methyl-2-pyrrolidinyl)- [CAS]	179120-92-4	US 5594011	Antiparkinsonian	Parkinson's disease
altretamine	1,3,5-Triazine-2,4,6-triamine, N,N,N',N',N'',N''-hexamethyl- [CAS]	645-05-6 7446-70-0	US 3424752	Anticancer, alkylating	Cancer, ovarian
aluminium chloride hexahydrate	Aluminium chloride, hexahydrate	7784-13-6		Dermatological	Hyperhidrosis

Table IV

API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
Aluminon		569-58-4			
Aluminum Acetate Solution		8006-13-1			
Aluminum Chlorate		15477-33-5			
Aluminum Hydroxychloride		1327-41-9			
Aluminum Potassium Sulfate		10043-67-1			
Aluminum Sodium Sulfate		10102-71-3			
alusulf	Aluminum hydroxide sulfate (Al7(OH)17(SO4)2), dodecahydrate [CAS]	61115-28-4	DE 2510663	Urological	Hyperphosphataemia
Alverine	Glycine, N-[(2S)-2-[(3R,4R)-4-(3-hydroxyphenyl)-3,4-dimethyl-1-piperidinyl]methyl]-1-oxo-3-phenylpropyl]-[CAS]	150-59-4			
alvimopan	4H-1-Benzopyran-4-one, 2-(2-chlorophenyl)-5,7-dihydroxy-8-(3-hydroxy-1-methyl-4-piperidinyl)-, cis-(-) [CAS]	158053-89-3	EP 657428	GI inflammatory/bowel disorders	Ileus
alvocidib		131740-09-5			
ALX-0646	2,4,6-Triiodophenol	148426-40-6	WO 9506638	Anticancer, other Antimigraine	Cancer, renal Migraine
AM-24	1-Piperazineethanol, 4-[[3,5-bis(1,1-dimethylethyl)-4-hydroxyphenyl]methyl]-Alpha-(4-chlorophenyl)- [CAS]	609-23-4		GI inflammatory/bowel disorders	Crohn's disease
AM-36	2-Methoxyoestradiol	199467-52-2		Neuroprotective	Unspecified
AM-477				Antiasthma	Asthma
Amantadine	1-Decanammonium, N,N-dimethyl-N-[2-[[[tricyclo(3.3.1.1 <sup>3,7</sup> dec-1-ylcarbonyl)oxy]ethyl]-, bromide [CAS]	768-94-5			
amantanium		58158-77-3			
Ambazone		539-21-9	US 4288609	Antifungal	Infection, general
Ambenonium		115-79-7			

Table IV

API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
ambrisentan	(+)-(2S)-2-[(4,6-dimethylpyrimidin-2-yl)oxy]-3-methoxy-3,3-diphenylpropanoic acid	177036-94-1		Vasodilator, peripheral	Heart failure
ambroxol	Cyclohexanol, 4-[[[(2-amino-3,5-dibromophenyl)methyl]amino]-, trans- [CAS]	18683-91-5 23828-92-4 119-29-9 5634-34-4 3754-19-6 115-51-5	GB 1178034	COPD treatment	Bronchitis, chronic
Ambucaine					
Ambuphylline					
Ambuside					
Ambutonium Bromide	Pregna-1,4-diene-3,20-dione, 21-(acetyloxy)-16,17-[cyclopentylidenebis(oxy)]-9-fluoro-11-hydroxy-, (11 $\beta$ ,16 $\alpha$ )- [CAS]	51022-69-6	DE 2437847	Antipsoriasis	
amcinonide	1,4,8,11-Tetraazacyclotetradecane, 1,11-(1,4-phenylenebis(methylene))bis-, octahydrochloride [CAS]	155148-31-5 32887-01-7 32886-97-8	US 5612478	Haematological	Chemotherapy-induced injury, bone marrow, leucopenia
AMD-3100					
Aminocillin					
Aminocillin Pivoxil					
amdoxovir	1,3-Dioxolane-2-methanol, 4-(2,6-diamino-9H-purin-9-yl)- (2R-cis)- [CAS]	145514-04-1	EP 656778	Antiviral, anti-HIV	Infection, HIV/AIDS
amelubant	Carbamic acid, ((4-((3-((4-(1-(4-hydroxyphenyl)-1-methylethyl)phenoxy)methyl)phenyl)methoxy)phenyl)iminomethyl)- ethyl ester [CAS]	346735-24-8	DE 10000907	COPD treatment	Chronic obstructive pulmonary disease
Americaine	Benzenemethanaminium, N,N-dimethyl-N-[2-[2-[4-(1,1,3,3-tetramethylbutyl)phenoxy]ethoxy]ethyl]-, chloride, mixt. with ethyl 4-aminobenzoate [CAS]	129128-13-8 30578-37-1 51579-82-9 3354-67-4 3572-60-9		Formulation, inhalable, other	Pain, general
Amezinium					
Amfenac					
Amidephrine					
Amidinomycin					



Table IV

API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
amifostine	Ethanthiol, 2-[(3-aminopropyl)amino]-, dihydrogen phosphate (ester)- [CAS]	20537-88-6 63717-27-1	EP 131500	Radio/chemoprotective	Chemotherapy-induced injury, renal
amiglumide	Pentanoic acid, 5-(dipentylamino)-4-(2-naphthalenylcarbonyl)amino)-5-oxo- (R)- [CAS]	119363-62-1 37517-28-5 39831-55-5	WO 8805774	GI inflammatory/bowel disorders Formulation, optimized, microencapsulate	Pancreatitis Infection, general
Amiloride		2609-46-3			
Aminacrine		90-45-9			
amineptine	Heptanoic acid, 7-[(10,11-dihydro-5H-dibenzo[a,d]cyclohepten-5-yl)amino]- [CAS]	30272-08-3 57574-09-1 140-40-9	US 3758528	Antidepressant	
Aminitroazole					
Amino Acid Preparations					
Aminocaproic Acid					
aminoglutethimide	2,6-Piperidinedione, 3-(4-aminophenyl)-3-ethyl- [CAS]	125-84-8 79-17-4	US 3944671	Anticancer, hormonal	Cancer, breast
Aminoguanidine					
Aminohippurate					
Aminometradine					
Aminopentamide					
aminophylline	1H-Purine-2,6-dione, 3,7-dihydro-1,3-dimethyl-, compd. with 1,2-ethanediamine (2:1) [CAS]	317-34-0 58-37-7 58-15-1 3811-56-1 2207-50-3		Formulation, modified-release, other	Asthma
Aminopromazine					
Aminopyrine					
Aminoquinuride					
Aminorex	Methanone, (2-butyl-3-benzofuranyl)[4-[2-(diethylamino)ethoxy]-3,5-diiodophenyl]- [CAS]	1951-25-3 19774-82-4 490-55-1 56824-20-5	US 3248401	Antiarrhythmic	Arrhythmia, general
amiodarone					
Amiphenazole					
Amiprilose					

Table IV

API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
amisulpride	Benzamide, 4-amino-N-[(1-ethyl-2-pyrrolidinyl)methyl]-5-(ethylsulfonyl)-2-methoxy- [CAS]	71675-85-9 50-48-6	US 4401822	Neuroleptic	Schizophrenia
<b>Amitriptyline</b>	1-Propanamine, 3-(10,11-dihydro-5H-dibenzo[a,d]cyclohepten-5-ylidene)-N,N-dimethyl + cyclohexanone, 2-(2-chlorophenyl)-2-(methylamino)			Formulation, fixed-dose combinations	Pain, neuropathic
amitriptyline+ketamine		4317-14-0			
<b>Amitriptylinoxide</b>	5H-[1]Benzopyrano[2,3-b]pyridine-3-carboxylic acid, 2-amino-7-(1-methylethyl)-5-oxo- [CAS]	68302-57-8	US 4299963	Antiasthma	Asthma
amlexanox	3,5-Pyridinedicarboxylic acid, 2-[(2-aminoethoxy)methyl]-4-(2-chlorophenyl)-1,4-dihydro-6-methyl-, 3-ethyl 5-methyl ester [CAS]	111470-99-6 88150-42-9 88150-47-4	EP 39167	Antianginal	Hypertension, general
amlodipine		377/9000			
<b>Ammoniacum</b>		1863-63-4			
<b>Ammonium Benzoate</b>		530-31-4			
<b>Ammonium Mandelate</b>		528-94-9			
<b>Ammonium Salicylate</b>		42739-38-8			
<b>Ammonium Valerate</b>		57-43-2			
Amobarbital		36590-19-9			
Amocarzine		86-42-0			
<b>Amodiaquin</b>	Morpholine, 4-[3-(4-(1,1-dimethylpropyl)phenyl)-2-methylpropyl]-2,6-dimethyl-, cis- [CAS]	78613-35-1 78613-38-4 26328-53-0	EP 24334	Antifungal	Infection, fungal, general
amorolfine					
<b>Amoscanate</b>					
amosulalol	Benzenesulfonamide, 5-[1-hydroxy-2-[(2-methoxyphenoxy)ethyl]amino]ethyl]-2-methyl-, (+/-)- [CAS]	70958-86-0 85320-68-9 5585-64-8	EP 136103	Antihypertensive, adrenergic	Hypertension, general
<b>Amotriphene</b>	Dibenz[b,f][1,4]oxazepine, 2-chloro-11-(1-piperazinyl)- [CAS]	14028-44-5	GB 1192812	Antidepressant	Depression, general
amoxapine					

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amoxicillin	4-Thia-1-azobicyclo[3.2.0]heptane-2-carboxylic acid, 6-[[amino(4-hydroxyphenyl)acetyl]amino]-3,3-dimethyl-7-oxo-, [2S-[2Alpha,5Alpha,6S(S*)]] [CAS] 61336-70-7	26787-78-0 61336-70-7		Formulation, modified-release, other	Infection, general Infection, respiratory tract, general
amoxicillin+potassium clavulanate	Piperidine, 1-(6-quinoxaliny[carbonyl]-[CAS]	74469-00-4	GB 1508977	Formulation, fixed-dose combinations	Attention deficit disorder
AMPAlex		154235-83-3 300-62-9 17590-01-1	US 5650409	Psychostimulant	
Amphotamine					
Amphotaminil					
amphotericin B	Amphotericin B compd. with (3S)-cholest-5-en-3-yl hydrogen sulfate (1:1) [CAS]	120895-52-5 1397-99-3	US 4822777	Formulation, optimized, liposomes	Infection, general
ampicillin	4-Thia-1-azobicyclo[3.2.0]heptane-2-carboxylic acid, 6-[[aminophenylacetyl]amino]-3,3-dimethyl-7-oxo-, [2S-[2Alpha,5Alpha,6S(S*)]] [CAS]	7169-53-4 7177-48-2 99464-64-9 38640-92-5		Formulation, fixed-dose combinations	Infection, general
Amproxicam					
Ampligen					
amprenavir	Carbamic acid, 3-(((4-aminophenyl)sulfonyl)(2-methylpropyl)amino)-2-hydroxy-1-(phenylmethyl)propyl-, tetrahydro-3-furanyl ester, (3S-(3R*(1R*,2S*))) [CAS]	161814-49-9 60719-84-8 75898-90-7	US 5783701 US 4004012	Antiviral, anti-HIV Cardio stimulant	Infection, HIV/AIDS
amrinone	[3,4'-Bipyridin]-6(1H)-one, 5-amino-, [CAS]				
amrubicin	5,12-Naphthacenedione, 9-acetyl-9-amino-7-((2-deoxy-β-D-erythro-pentopyranosyl)oxy)-7,8,9,10-tetrahydro-6,11-dihydroxy-, hydrochloride, (7S-cis)-[CAS]				
amsacrine	Methanesulfonamide, N-[(4-(9-acridinylamino)-3-methoxyphenyl)-[CAS]	92395-36-3 51264-14-3	EP 107486	Anticancer, antibiotic Anticancer, other	Cancer, lung, non-small cell Cancer, leukaemia, acute lymphocytic

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API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
amitriptyline guacil <b>Amylocaine</b> AN-152 anabolic steroids <b>Anagestone</b>	Glycine, N-[[1-methyl-5-(4-methylbenzoyl)-1H-pyrrrol-2-yl]acetyl]-, 2-methoxyphenyl ester [CAS]	87344-06-7 532-59-2	GB 2115417	Analgescic, NSAID	Arthritis, rheumatoid
<b>Anagelone</b>	Imidazo[2,1-b]quinazolin-2(3H)-one, 6,7-dichloro-1,5-dihydro-, monohydrochloride [CAS]	2740-52-5 58579-51-4 68475-42-3	WO 9719954 WO 9848812	Anticancer, antibiotic Cardiovascular	Cancer, prostate Heart failure
anagrelide	1,3-Benzenediacetonitrile, Alpha,Alpha,Alpha-tetramethyl-5- (1H-1,2,4-triazol-1-ylmethyl)- [CAS]	120511-73-1 3861-73-2 31698-14-3 9046-56-4	GB 1418822	Haematological	Thrombocytosis
anastrozole <b>Anazole</b> <b>Ancitabine</b> <b>Ancrod</b>	N-4'-[5-Tetrazolyl]-phenyl-4-(5-tetrazolyl)-benzamide	132840-22-3 360-66-7 521-17-5	EP 296749	Anticancer, hormonal	Cancer, breast
andolast <b>Androisoxazole</b> <b>Androstenediol</b>	21-(Acetyloxy)-17-hydroxypregna-4,9(11)-diene-3,20-dione	7753-60-8 4180-23-8; 104-46-1 (unspecified) 532-11-6	EP 460083	Antiasthma	Asthma
anecortave <b>Anethole</b>	Vincalculoblastine, 3',4'-didehydro-4'-deoxy- [CAS]	1407-47-2 38390-45-3	US 6417205	Ophthalmological	Macular degeneration
<b>Anethole Trithione</b> Angiofenix <b>Angiotensin</b> anhydrovinblastine	Echinocandin B, 1-((4R,5R)-4,5-dihydroxy-N2-(4''-(pentyloxy)(1,1',4',1''-terphenyl)-4-yl)carbonyl)-L-ornithine)- [CAS]	166863-25-8	US 6384013	Cardiovascular	Cardiomyopathy, ischaemic
anidulafungin			US 6011041	Anticancer, other	Cancer, general
			US 6384013	Antifungal	Infection, Candida, general

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Anileridine		144-14-9			
Aniracetam		72432-10-1			
Anisindione		117-37-3			
Anisomycin		22862-76-6			
Anisotropine		80-50-2			
Methylbromide anistreplase	Anistreplase [CAS]	81669-57-0	EP 28489	Fibrinolytic	Infarction, myocardial
Antazoline		91-75-8			
Anthiolimine		305-97-5			
Anthrallin		1143-38-0			
Anthramycin		4803-27-4			
Anthraxin		577-33-3			
anthrax inhibitor			US 6436933	Anti-infective, other	Infection, anthrax
antiangiogenic dendrimers			US 6426067	Anticancer, other	Cancer, general
Anticort	L-Ascorbic acid, mixt with 2-(diethylamino)ethyl 4-aminobenzoate	186646-39-9	WO 9640038	Anabolic	Cachexia
antidepressants	monohydrochloride, disodium hydrogen phosphate, potassium benzoate and zinc sulfate (1:1) [CAS]		US 5898036	Antidepressant	Depression, general
anti-invasins			US 6303302	Antifungal	Infection, fungal, general
Antimony Potassium Tartrate		28300-74-5			
Antimony Sodium Thioglycollate		539-54-8			
Antimony Thioglycollamide		6533-78-4			
Antiprogesterin	19-Norpregna-4,9-dien-3-one, (acetylphenyl)-20,20,21,21-pentafluoro-17-hydroxy-(11 $\beta$ ,17 $\alpha$ ) [CAS]	211254-73-8	DE 19706061	Anticancer, hormonal	Cancer, breast
Antipyrine		60-80-0			
Antipyrine Salicylate		520-07-0			
antithrombin III	Antithrombin, III [CAS]	9000-94-6		Blood fraction	Antithrombin III deficiency
		90170-80-2			

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anxiolytics					
AP-521	N-Piperonyl-2-amino-1,2,3,4-tetrahydrobenzo(b)thieno(2,3-c)pyridine-3-carbamide	151227-08-6	US 5756538	Anxiolytic	Anxiety, general
AP-5280					
<b>Apalcillin</b>		63469-19-2	WO 9321189 US 5965118	Anxiolytic Anticancer, alkylating	Anxiety, general Cancer, general
apaziquone	1H-Indole-4,7-dione, 5-(1-aziridinyl)-3-(hydroxymethyl)-2-(3-hydroxy-1-propenyl)-1-methyl-, (E)- [CAS]	114560-48-4 13539-59-8 90-26-6 641-36-1	WO 8706227	Anticancer, alkylating	Cancer, breast
<b>Apazone</b>					
<b><math>\alpha</math>-Phenylbutyramide</b>					
<b>Apocodeine</b>					
apomine	Phosphonic acid, (2-(3,5-bis(1,1-dimethylethyl)-4-hydroxyphenyl)ethylidene)bis- tetrakis(1-methylethyl) ester [CAS]	126411-13-0		Anticancer, other	Cancer, prostate
apomorphine	4H-Dibenzo[de,g]quinoline-10,11-diol, 5,6,6a,7-tetrahydro-6-methyl-, hydrochloride	314-19-2 58-00-4 66711-21-5 73218-79-8	US 4517199	Formulation, transmucosal, nasal Antiglaucoma	Impotence Glaucoma
apraclonidine	1,4-Benzenediamine, 2,6-dichloro-N1-(4,5-dihydro-1H-imidazol-2-yl)- [CAS]				
aprepitant	3H-1,2,4-Triazol-3-one, 5-[[2R,3S)-2-[(1R)-1-[3,5-bis(trifluoromethyl)phenylethoxy]-3-(4-fluorophenyl)-4-morpholinyl]methyl]-1,2-dihydro- [CAS]	170729-80-3 33237-74-0 37640-71-4 77-02-1 528-92-7 9087-70-1 137159-92-3	US 5719147 GB 1321424	Antiemetic Antiarrhythmic	Chemotherapy-induced nausea and vomiting
apiridine	1,3-Propanediamine, N-(2,3-dihydro-1H-inden-2-yl)-N',N'-diethyl-N-phenyl-[CAS]				
<b>Aprobarbital</b>					
<b>Apronalide</b>					
<b>Aprotinin</b>					
<b>Aptiganel</b>					
AQ4N	9,10-Anthracenedione, 1,4-bis((2-(dimethyloxidoamino)ethyl)amino)-5,8-dihydroxy-[CAS]	136470-65-0	US 5132327 US 6204257	Anticancer, other Anaesthetic, injectable	Cancer, general Anaesthesia
Aquavan					

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API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
AR-116081	(R)-N-[5-methyl-8-(4-methylpiperazin-1-yl)-1,2,3,4-tetrahydro-2-naphthyl]-4-morpholinobenzamide		US 6107324	Neuroleptic	Unspecified
AR-A2		506-32-1		Anxiolytic	Anxiety, general
Arachidonic Acid	3,5-Pyridinedicarboxylic acid, 1,4-dihydro-2,6-dimethyl-4-(2-nitrophenyl)-, methyl 2-oxopropyl ester- [CAS]	86780-90-7	GB 2111978	Antihypertensive, other	Hypertension, general
arandipine	D-Streptamine, O-3-amino-3-deoxy-Alpha-D-glucopyranosyl-(1-6)-O-[2,6-diamino-2,3,4,6-tetra-deoxy-Alpha-D-erythro-hexopyranosyl-(1-4)]-N1-(4-amino-2-hydroxy-1-oxobutyl)-2-deoxy-, (S)- [CAS]	51025-85-5 75282-85-4	US 4001208	Aminoglycoside antibiotic	Infection, general
arbakacin	1H-Indole-3-carboxylic acid, 6-bromo-4-((dimethylamino)methyl)-5-hydroxy-1-methyl-2-((phenylthio)methyl)-, ethylester, monohydrochloride [CAS]	131707-23-8	WO 9008135	Immunostimulant, other	Infection, influenza virus
Arbidol	1,2-Benzenediol, 4-(1-hydroxy-2-[[4-(4-hydroxyphenyl)butyl]amino]ethyl)-, (R)- [CAS]	128470-16-6 154361-48-5 9005-49-6	WO 9220324	Diagnostic	Diagnosis, coronary
arbutamine	Heparin [CAS]			Anticoagulant	Thrombosis, venous
Arcitumomab	1,2,5,6-Tetrahydro-1-methyl-3-pyridine carboxylic acid methyl ester			Formulation, transdermal, patch	Alzheimer's disease
ardeparin	2-Piperidinecarboxylic acid, 1-[5-[(aminomino)methyl]amino]-1-oxo-2-[[[1,2,3,4-tetrahydro-3-methyl-8-quinoliny]sulfonyl]amino]pentyl]-4-methyl- [CAS]	74863-84-6 74-79-3 153259-65-5	EP 8746	Anticoagulant	Thrombosis, arterial
argatroban	2(1H)-Quinolone, 7-[4-{4-(2,3-dichlorophenyl)-1-piperazinyl}butoxy]-3,4-dihydro- [CAS]	129722-12-9	EP 367141	Neuroleptic	Schizophrenia
Arginine					
Ariflo®					
aripiprazole					

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API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
arofylline	1H-Purine-2,6-dione, 3-(4-chlorophenyl)-3,7-dihydro-1-propyl- [CAS]	136145-07-8	EP 435811	COPD treatment	Chronic obstructive pulmonary disease
arotindol	2-Thiophenecarboxamide, 5-[2-[(1,1-dimethylethyl)amino]-2-hydroxypropyl]thio]-4-thiazolyl-, (±) [CAS]	104766-23-6 68377-92-4 618-22-4	US 3932400	Antihypertensive, adrenergic	Hypertension, general
<b>Arsacetin</b>	Arsenic oxide (As <sub>2</sub> O <sub>3</sub> ) [CAS]	1327-53-3 139-93-5 119-96-0 75887-54-6 123407-36-3 (Z-form)		Anticancer, other	Cancer, leukaemia, acute myelogenous
arsenic trioxide					
<b>Arsphenamine</b>					
<b>Arsthinol</b>					
<b>Arteether</b>					
<b>Artefene</b>					
<b>Artemether</b>					
<b>Artemisinin</b>					
artemotil	3,12-Epoxy-12H-pyranol[4,3-j]-1,2-benzodioxepin, 10-ethoxydecahydro-3,6,9-trimethyl-, [3R-(3 $\alpha$ ,5 $\alpha$ ,6 $\alpha$ ,8 $\alpha$ ,9 $\alpha$ ,10 $\alpha$ ,12 $\beta$ ,12 $\alpha$ R)]- [CAS]	75887-54-6		Antimalarial	Infection, malaria
artesunate	Butanedioic acid mono-[(3R,5aS,6R,8aS,9R,10R,12R,12aR)-decahydro-3,6,9-trimethyl-3,12-epoxy-12H-pyranol[4,3-j]-1,2-benzodioxepin-10-yl]ester	88495-63-0		Formulation, transmucosal, systemic	Infection, malaria
arzoifene	Benzo(b)thiophene-6-ol, 2-(4-methoxyphenyl)-3-(4-(2-(1-piperidinylethoxy)phenoxy)- [CAS]	182133-27-3	WO 9609041	Anticancer, hormonal	Cancer, breast
AS-3201	Spiro(pyrrolidine-3,4'(1'H)-pyrrolo(1,2-a)pyrazine)-1',2,3',5'(2'H)-tetraone, 2'-((4-bromo-2-fluorophenyl)methyl)-, (3R)- [CAS]	147254-64-6 50-78-2	EP 520320	Symptomatic antidiabetic	Diabetic complication, general
ASA	Benzoic acid, 2-(acetyloxy)- [CAS]	56449-07-1		Formulation, modified-release, other	Pain, general



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<b><math>\alpha</math>-Santonin</b>		481-06-1			
<b>Ascaridole</b>		512-85-6			
<b>Ascorbic Acid</b>		50-81-7			
asenapine	1H-Dibenz[2,3,6,7]oxepino[4,5-c]pyrrole, 5-chloro-2,3,3a,12b-tetrahydro-2-methyl-, trans-, (Z)-2-butenedioate (1:1) [CAS]	85650-56-2	WO 9523600	Neuroleptic	Psychosis, general
asimadoline	Benzeneacetamide, N-[2-(3-hydroxy-1-pyrrolidinyl)-1-phenylethyl]-N-methyl- $\alpha$ -phenyl-, [S-(R*, R*)]- [CAS]	153205-46-0	DE 4215213	GI inflammatory/bowel disorders	Irritable bowel syndrome
asoprisnil	11 $\beta$ -(4-(Hydroxyiminomethyl)phenyl)-17 $\beta$ -methoxy-17 $\alpha$ -(methoxymethyl)estra-4,9-dien-3-one	199396-76-4	EP 0648778	Menstruation disorders	Endometriosis
<b>Asoxime</b>		34433-31-3			
<b>Aspartic Acid</b>		56-84-8			
<b>Aspidin</b>		584-28-1			
<b>Aspidinol</b>		519-40-4			
<b>Aspirin</b>		50-78-2			
<i>Aspirin</i> , <i>Dipyridamol</i>					
asposicillin	Glycinamide, N-methyl-D-asparaginyl-N-(2-carboxy-3,3-dimethyl-7-oxo-4-thia-1-azabicyclo[3.2.0]hept-6-yl)-D-2-(4-hydroxyphenyl)-, [2S-(2 $\alpha$ ,5 $\alpha$ ,6 $\alpha$ ,6 $\beta$ )]-[CAS]	63358-49-6	GB 1533413	Penicillin, injectable	Infection, respiratory tract, general
AST-120	AST 120 [CAS]	90597-58-3		Urological	Renal failure
<b>Astemizole</b>		68844-77-9			
asulacrine	4-Acridinecarboxamide, 9-[[2-methoxy-4-[(methylsulfonyl)amino]phenyl]amino]-N,5-dimethyl- [CAS]	80841-47-0			
	(N-[2-(4-(5H-Dibenzo[a,d]cyclohepten-5-ylidene)-piperidinylethyl]-1-formyl-4-piperidinecarboxamide monohydrochloride monohydrate	80841-48-1	EP 39224	Anticancer, other	Cancer, general
AT-1015	Androsta-1,4-diene-3,17-dione, 1-methyl-[CAS]	96301-34-7	DE 3338212	Antithrombotic	Thrombosis, general
atamestane				Anticancer, hormonal	Cancer, breast

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API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
atazanavir	2,5,6,10,13-Pentaazatetradecanedioic acid, 3,12-bis(1,1-dimethylethyl)-8-hydroxy-4,11-dioxo-9-(phenylmethyl)-6-((4-(2-pyridinyl)phenyl)methyl)- dimethyl ester, (3S,8S,9S,12S)-, sulfate (1:1) (salt) [CAS]	229975-97-7		Antiviral, anti-HIV	Infection, HIV/AIDS
atenolol	Benzeneacetamide, 4-[2-hydroxy-3-[(1-methylethyl)amino]propoxy]- [CAS]	29122-68-7 73677-19-7	GB 1285038	Antihypertensive, adrenergic	Hypertension, general
atenolol + chlorthalidone	Benzeneacetamide, 4-[2-hydroxy-3-[(1-methylethyl)amino]propoxy]-, mixt. with 2-chloro-5-(2,3-dihydro-1-hydroxy-3-oxo-1H-isindol-1-yl)benzenesulfonamide [CAS]	73677-19-7	US 3836671	Formulation, fixed-dose combinations	Hypertension, general
atenolol + nifedipine	Benzeneacetamide, 4-[2-hydroxy-3-[(1-methylethyl)amino]propoxy]- + 4-(2-nitrophenyl)-2,6-dimethyl-3,5-dicarbomethoxy-1,4-dihydropyridine	98-55-5 136816-75-6		Formulation, fixed-dose combinations	Hypertension, general
$\alpha$ -Terpineol Atevirdine	1H-Imidazole, 4-(2-ethyl-2,3-dihydro-1H-inden-2-yl)- [CAS]	104054-27-5	EP 183492	Reproductive/gonadal, general	Sexual dysfunction, female
atipamezole	2-Azaspiv[4.5]decane-2-propanamine, N,N-diethyl-8,8-dipropyl, dimaleate	130065-61-1	US 5744495	Antiarthritic, immunological	Arthritis, rheumatoid
atiprimod dimaleate ATL-146e		59-02-9	US 6232297	Imaging agent	Unspecified
$\alpha$ -Tocopherol	Benzenepropanamine, N-methyl-Gamma-(2-methylphenoxy)-, (R)- [CAS]	82248-59-7		Neurological	Attention deficit disorder
atomoxetine	1H-Pyrrole-1-heptanoic acid, 2-(4-fluorophenyl)-3, delta-dihydroxy-5-(1-methylethyl)-3-phenyl-4-[[phenylamino]carbonyl]- [CAS]	83015-26-3	EP 52492		
atorvastatin	Oxytocin, 1-(3-mercaptopropanoic acid)-2-(O-ethyl-D-tyrosine)-4-L-threonine-8-L-ornithine- [CAS]	134523-03-8 134523-00-5	EP 409281	Hypolipaeamic/Antiatherosclerosis	Hypercholesterolaemia
atosiban		90779-69-4	EP 112809	Labour inhibitor	Labour, preterm

Table IV

API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
atovaquone	1,4-Naphthalenedione, 2-[4-(4-chlorophenyl)cyclohexyl]-3-hydroxy-, trans- [CAS]	95233-18-4	EP 123238	Antifungal	Infection, Pneumocystis jiroveci
atovaquone + proguanil	1,4-Naphthalenedione, 2-[4-(4-chlorophenyl)cyclohexyl]-3-hydroxy-, trans + N-(4-chloro-phenyl)-N-(1-methylethyl)imidodicarbonimidic diamide			Antimalarial	Infection, malaria
atracurium	Isoquinolinium, 2,2'-[1,5-pentanediy]bis[oxy(3-oxo-3,1-propanediyl)]bis[1-(3,4-dimethoxyphenyl)methyl]-1,2,3,4-tetrahydro-6,7-dimethoxy-2-methyl- [CAS]	64228-81-5	US 4179557	Muscle relaxant	Surgery adjunct
atrasentan	3-Pyrrolidinecarboxylic acid, 4-(1,3-benzodioxol-5-yl)-1-[2-(dibutylamino)-2-oxoethyl]-2-(4-methoxyphenyl)-, (2R,3R,4S)- [CAS]	173937-91-2 85637-73-6	WO 9730045	Anticancer, other	Cancer, prostate
<b>Atrial Natriuretic Peptide</b>					
Atrolactamide					
Atropine		2019-68-3 51-55-8			Infection, respiratory tract, general
Augmentin		74469-00-4		Formulation, modified-release, other	
auranofin					
<b>Aurothiogluucose</b>					
avasimibe	Gold, (1-thio-β-D-glucopyranose 2,3,4,6-tetraacetato-S)-(triethylphosphine)-[CAS]	34031-32-8 12192-57-3	US 3708579	Antiarthritic, other	Arthritis, rheumatoid
Avobenzone	Sulfamic acid, [[2,4,6-tris(1-methylethyl)phenyl]acetyl]-, 2,6-bis(1-methylethyl)phenyl ester [CAS]	166518-60-1 70356-09-1 257892-33-4 320-67-2 115-46-8	US 5491172	Hypolipaeamic/Antiatherosclerosis	Atherosclerosis
AWD-12-281	AWD 12-281 [CAS]			Antiallergic, non-asthma	Rhinitis, allergic, general
<b>Azacitidine</b>					
<b>Azacyclonol</b>					
azandazole	2-Pyrimidinamine, 4-[2-(1-methyl-5-nitro-1H-imidazol-2-yl)ethenyl]-, (E)- [CAS]	62973-76-6	US 3882105	Antibacterial, other	Infection, trichomoniasis

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azapropazone	1H-Pyrazolo[1,2-a][1,2,4]benzotriazine-1,3(2H)-dione, 5-(dimethylamino)-9-methyl-2-propyl- [CAS]	13539-59-8	FR 1440629	Anti-inflammatory	
<b>Azaserine</b>		115-02-6			
	2H-1,4-Benzoxazine-8-carboxamide, N-1-	123040-16-4			
	azabicyclo[2.2.2]oct-3-yl-6-chloro-3,4-dihydro-4-methyl-3-oxo-	123040-94-8			
azasetron	monohydrochloride- [CAS]	123040-96-0		Antiemetic	Nausea and vomiting, general
<b>Azatadine</b>		123040-69-7	EP 313393		
	6-[(1-Methyl-4-nitro-1H-imidazol-5-yl)thio]-1H-purine	3964-81-6			
azathioprine	1H-purine	446-86-6		Formulation, oral, other	Transplant rejection, bone marrow
	glycine			Analgesic, other	Pain, neuropathic
AZD-4282	3,4-Difluorophenylcyclopropylamine			Antithrombotic	Thrombosis, arterial
AZD-6140	Nonanedioic acid [CAS]	123-99-9		Antiacne	Acne
azelaic acid	1(2H)-Phthalazinone, 4-[(4-chlorophenyl)methyl]-2-(hexahydro-1-methyl-1H-azepin-4-yl)-, monohydrochloride [CAS]	58581-89-8 79307-93-0	GB 1377231	Antisthma	Asthma
azelastine	3,5-Pyridinedicarboxylic acid, 2-amino-1,4-dihydro-6-methyl-4-(3-nitrophenyl)-, 3-[1-(diphenylmethyl)-3-azetidinyl] 5-(1-methylethyl)ester, (+/-)- [CAS]	123524-52-7 13838-08-9 17243-38-8 149908-53-2 1830-32-6 76801-85-9 83905-01-5 92395-24-9	EP 266922	Antihypertensive, other	Hypertension, general
azelnidipine	9-deoxy-9a-aza-9a-methyl-9a-homoerythromycin-A				
<b>Azidamfenicol</b>					
<b>Azidocillin</b>					
<b>Azimilide</b>					
<b>Azintamide</b>					
azithromycin	4-Thia-1-azabicyclo[3.2.0]heptane-2-carboxylic acid, 3,3-dimethyl-7-oxo-6-[[[(2-oxo-1-imidazolidinyl)carbonyl]amino]phenylacetyl]amino]-, [2S-[2.alpha.,5.alpha.6S(S*)]]-[CAS]	37091-65-9 37091-66-0	US 4328334	Macrolide antibiotic	Infection, respiratory tract, lower
azlocillin			GB 1392849	Penicillin, injectable	Infection, general

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<b>Azosemide</b>	Propanoic acid, 2-[[[1-(2-amino-4-thiazolyl)-2-[(2-methyl-4-oxo-1-sulfo-3-azetidinyl)amino]-2-oxoethylidene]amino]oxy]-2-methyl-, [2S-[2Alpha,3B(Z)]]-[CAS]	27589-33-9	GB 2071650	Beta-lactam antibiotic	Infection, general
aztreonam	Sodium 5-isopropyl-3,8-dimethyl-1-azulene sulfonate	104184-69-2 78110-38-0	EP 88958	Formulation, modified-release, other	Inflammation, general
azulene	4-Thia-1-azabicyclo[3.2.0]heptane-2-carboxylic acid, 6-[[[aminophenylacetyl]amino]-3,3-dimethyl-7-oxo-, 1-[(ethoxycarbonyl)oxy]ethyl ester, [2S-[2Alpha,5Alpha,6B(S*)]]-[CAS]	6223-35-4			
bacampicillin	[B-(Aminomethyl)-4-chlorobenzene]propanoic acid [CAS]	37661-08-8 50972-17-3 1405-87-4	GB 1363506	Penicillin, oral	Infection, general
<b>Bacitracin</b>				Formulation, implant	Spastic paralysis
baclofen		1134-47-0 491-67-8			
<b>Balcalcin</b>					
balofoxacin	3-Quinolonecarboxylic acid, 1-cyclopropyl-6-fluoro-1,4-dihydro-8-methoxy-7-[3-(methylamino)-1-piperidinyl]-4-oxo- [CAS]	127294-70-6	EP 342675	Quinolone antibacterial	Infection, urinary tract
balsalazide	Benzoic acid, 5-[[4-[(2-carboxyethyl)amino]carbonyl]phenyl]azo]-2-hydroxy-, (E)- [CAS]	80573-04-2	US 4412992	GI inflammatory/bowel disorders	Colitis, ulcerative
bambuterol	Carbamic acid, dimethyl-, 5-[2-[(1,1-dimethylethyl)amino]-1-hydroxyethyl]-1,3-phenylene ester, monohydrochloride [CAS]	81732-46-9 81732-65-2	EP 43807	Antiasthma	Asthma
<b>Bamethan</b>		3703-79-5			
<b>Bamifylline</b>		2016-63-9			
<b>Bamipine</b>		4945-47-5			
<b>Barbital</b>		57-44-3			
	3,5-Pyridinedicarboxylic acid, 1,4-dihydro-2,6-dimethyl-4-(3-nitrophenyl)-, methyl-1-(phenylmethyl)-3-pyrrolidinyl ester, [S-(R*,R')]-	104713-75-9 104757-53-1 71863-56-4	US 4220649	Antihypertensive, other	Hypertension, general
bamidipine					

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BAS-118	N-Methyl-3-[2-(2-naphthyl)acetylaminol]benzamide	1339-92-0		Antibacterial, other	Infection, Helicobacter pylori
Basic Aluminum Carbonate Gel		179045-86-4			
Basiliximab		130370-60-4			
Batimastat		9039-61-6			
Batroxobin					
Bay-41-2272	5-cyclopropyl-2-[1(2-fluoro-benzyl)-1H-pyrazolo[3,4-b]pyridine-3-yl]pyrimidine-4-ylamine			Male sexual dysfunction	Sexual dysfunction, male, general
Bay-41-8543	2-[1-(2-Fluorobenzyl)-1H-pyrazolo[3,4-b]pyridin-3-yl]-5-(4-morpholinyl)pyrimidine-4,6-diamine			Cardiovascular	Unspecified
BAY-43-9006	N-(4-chloro-3-(trifluoromethyl)phenyl)-N'-(4-(2-(N-methylcarbamoyl)-4-pyridyloxy)phenyl)urea			Anticancer, other	Cancer, liver
BAY-57-1293	N-[5(aminosulfonyl)-4-methyl-1,3-thiazol-2-yl]-N-methyl-2-[4-(2-pyridinyl)phenyl]acetamide			Antiviral, other	Infection, herpes simplex virus
bazedoxifen	TSE 424 [CAS]	198481-33-3	EP 802183	Osteoporosis treatment	Osteoporosis
$\beta$ -Benzalbutyramide		7236-47-7			
BBR-3464	Platinum(4+), hexaaminedichlorobis[ $\mu$ -(1,6-hexanediamine-N,N''))tri- stereoisomer, tetrakis[triflate] [CAS]	172903-00-3	US 5744497	Anticancer, alkylating	Cancer, lung, non-small cell
BBR-3576			US 5519029	Anticancer, antibiotic	Cancer, prostate
BBR-3610			US 6060616	Anticancer, alkylating	Cancer, general
$\beta$ -Carotene	(-)-2-R-dihydroxyphosphinol-5-(S)-(guanine-9-yl-methyl)tetrahydrofuran	7235-40-7			
BCH-1868				Anticancer, antimetabolite	Cancer, general
Bebeerine		477-60-1			
Beclamide		501-68-8			

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beclometasone	Pregna-1,4-diene-3,20-dione, 9-chloro-11 $\beta$ ,17,21-trihydroxy-16 $\beta$ -methyl, [CAS]	5534-09-8 4419-39-0 134564-82-2	WO 0006132	Formulation, inhalable, solution	Asthma
<b>Befloxatone</b>	Ethanone, 1-[7-[2-hydroxy-3-[(1-methylethyl)amino]propoxy]-2-benzofuranyl]-[CAS]	39543-79-8 39552-01-7 64-65-3 302-40-9		Antiglaucoma	
befunolol					
<b>Bemegride</b>					
<b>Benactyzine</b>	1H-1-Benzazepine-1-acetic acid, 3-[[1-(ethoxycarbonyl)-3-phenylpropyl]amino]-2,3,4,5-tetrahydro-2-oxo-, [S-(R*, R*)]-[CAS]	86541-74-4 86541-75-5 86541-78-8			
benazepril	1-Propanamine, N,N-dimethyl-3-[[1-(phenylmethyl)pyrrolidyl]oxy]-, (E)-2-butenedioate (1:1) [CAS]	14286-84-1 2179-37-5 81919-14-4 20187-55-7	EP 72352	Antihypertensive, renin system	Hypertension, general
benzydane	L-Lysine, mono[[1-(phenylmethyl)-1H-indazol-3-yl]oxy]acetate [CAS]	73-48-3 78718-25-9	WO 9829409	Vasodilator, peripheral	
<b>Bendroflumethiazide</b>			GB 2081708	Ophthalmological	
<b>Benexate</b>					
benfluorex	Ethanol, 2-[[1-methyl-2-[3-(trifluoromethyl)phenyl]ethyl]amino]-, benzoate (ester) [CAS]	23602-78-0 23642-66-2 22457-89-2 3447-95-8	GB 1175516	Hypolipaeamic/Antiatherosclerosis	
<b>Benfotiamine</b>					
<b>Benfurodil</b>					
benidipine	3,5-Pyridinedicarboxylic acid, 1,4-dihydro-2,6-dimethyl-4-(3-nitrophenyl)-, methyl 1-(phenylmethyl)-3-piperidinyl ester, monohydrochloride (R*, R*)(+/-)-[CAS]	105979-17-7 91599-74-5 5003-48-5 67434-14-4 99-43-4 2062-84-2 2156-27-6 322-35-0	EP 63365	Antihypertensive, other	Hypertension, general
<b>Benorylate</b>					
<b>Benoxaprofen</b>					
<b>Benoxinate</b>					
<b>Benperidol</b>					
<b>Benproperine</b>					
<b>Benserazide</b>					

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benzazepam	2H-[1]Benzothieno[2,3-e]-1,4-diazepin-2-one, 1,3,6,7,8,9-hexahydro-5-phenyl[CAS]	29462-18-8	DE 2005276	Anxiolytic	
<b>Bentiromide</b>		37106-97-1			
<b>Bentoquatam</b>		1340-69-8			
<b>Benzalkonium</b>		8001-54-5			
<b>Benzarone</b>		1477-19-6			
benzbromarone	Methanone, (3,5-dibromo-4-hydroxyphenyl)(2-ethyl-3-benzofuranyl)-[CAS]	3562-84-3	US 3012042	Antigout	
<b>Benzethonium</b>		121-54-0			
<b>Benzetimide</b>		14051-33-3			
<b>Benzilonium</b>		1050-48-2			
<b>Benziodarone</b>		68-90-6			
benzimidazole	N-benzyl-2-nitroimidazole-1-acetamide	22994-85-0	GB 1138529	Protozoacide	
benzocaine	Benzoic acid, 4-amino-, ethyl ester	94-09-7		Formulation, fixed-dose combinations	Pain, musculoskeletal
<b>Benzocetamine</b>		17243-39-9			
<b>Benzonatate</b>		104-31-4			
<b>Benzoxonium Chloride</b>		19379-90-9			
benzoyl peroxide	Peroxide, dibenzoyl [CAS]	94-36-0		Formulation, other	Acne
<b>Benzoylpas</b>		13898-58-3			
<b>Benzphetamine</b>		156-08-1			
<b>Benzpiperylon</b>		53-89-4			
<b>Benzquinamide</b>		63-12-7			
<b>Benzthiazide</b>		91-33-8			
<b>Benztropine</b>		132-17-2			
benzylamine	1-Propanamine, N,N-dimethyl-3-[[1-(phenylmethyl)-1H-indazol-3-yl]oxy]- [CAS]	132-69-4		Stomatological, reproductive/gonadal, anti-inflammatory	
<b>Benzyl Benzoate</b>		642-72-8			
<b>Benzylhydrochlorothiazide</b>		120-51-4			
de		1824-50-6			
<b>Benzylmorphine</b>		14297-87-1			



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API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
<b>Bephenium Hydroxynaphthoate</b>		3818-50-6			
bepotastine	1-[1-Piperidinebutanoic acid, 4-[(4-chlorophenyl)-2-pyridinylmethoxy]-, (S)-, monobenzenesulfonate] [CAS]	190786-44-8 190786-43-7	WO 9829409	Antiallergic, non-asthma	Allergy, general
bepitidil	1-Pyrrolidineethanamine, 0-[(2-methylpropoxy)methyl]-N-phenyl-N-(phenylmethyl)- [CAS]	64706-54-3 74764-40-2 74764-75-3	EP 146155	Antianginal	Angina, general
beraprost	1H-Cyclopenta[b]benzofuran-5-butanolic acid, 2,3,3a,8b-tetrahydro-2-hydroxy-1-(3-hydroxy-4-methyl-1-octen-6-ynyl)- [CAS]	88475-69-8 88430-50-6	US 4474802	Prostaglandin	Peripheral vascular disease
<b>Berberine</b>		2086-83-1			
<b>Bergapten</b>		484-20-8			
<b>Bernopropfen</b>		78499-27-1			
<b>Besipirdine</b>		119257-34-0			
betahistine	2-Pyridineethanamine, N-methyl-, dihydrochloride	5579-84-0			
betaine	Betaine- [CAS]	5638-76-6 107-43-7		Formulation, modified-release, <=24hr Metabolic and enzyme disorders	Meniere's disease Homocystinuria
betamethasone	Pregna-1,4-diene-3,20-dione, 9-fluoro-11,17,21-trihydroxy-16-methyl-, (11 $\beta$ ,16 $\beta$ )- [CAS]	378-44-9		Formulation, dermal, topical	Psoriasis
<b>Betamipron</b>		3440-28-6			
<b>Betasine</b>		3734-24-5			
betaxolol	2-Propanol, 1-[4-[2-(cyclopropylmethoxy)ethyl]phenoxy]-3-[(1-methylethyl)amino]- [CAS]	63659-18-7 63659-19-8 105-20-4 590-63-6 55-73-2 3818-62-0 500-34-5	US 4252984	Antihypertensive, adrenergic	Hypertension, general, glaucoma
<b>Betazole</b>					
<b>Bethanechol</b>					
<b>Bethanidine</b>					
<b>Betoxycaine</b>					
<b><math>\beta</math>-Eucaine</b>					
bevantolol	2-Propanol, 1-[2-(3,4-dimethoxyphenyl)ethyl]amino]-3-(3-methylphenoxy)- [CAS]	42864-78-8 59170-23-9	US 3857891	Antihypertensive, adrenergic	Hypertension, general
<b>Bevonium</b>		5205-82-3			

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bexarotene	Benzoic acid, 4-(1-(5,6,7,8-tetrahydro-3,5,5,8,8-pentamethyl-2-naphthalenyl)ethenyl)- [CAS]	153559-49-0	WO 9321146	Anticancer, other	Cancer, lymphoma, T-cell
bezafibrate	Propanoic acid, 2-(4-[2-(4-chlorobenzoyl)amino]ethyl)phenoxy]-2-methyl- [CAS]	41859-67-0 15301-48-1	GB 1359264	Hypolipaeimic/Antiatherosclerosis	
<b>Bezitramide</b>		166374-48-7		Cardio stimulant	Heart failure
BG-9928	10,11-dihydro-10-hydroxyimino-5H-dibenz[b,f]azepine-5-carboxamide	199997-15-4	WO 9745416	Antiepileptic	Epilepsy, general
BIA-2-024	(S)-(-)-10-acetoxy-10,11-dihydro-5H-dibenz[b,f]azepine-5-carboxamide- [CAS]	236395-14-5		Antiepileptic	Epilepsy, general
BIA-2-093	1-(3,4-dihydroxy-5-nitrophenyl)-2-phenylethanone	274925-86-9 493-75-4	EP 1010688	Antiparkinsonian	Parkinson's disease
BIA-3-202					
<b>Bialamilcol</b>					
biapenem	5H-Pyrazolo[1,2-a][1,2,4]triazol-4-ium, 6-[[[2-carboxy-6-(1-hydroxyethyl)-4-methyl-7-oxo-1-azabicyclo[3.2.0]hept-2-en-3-yl]thio]-6,7-dihydro-, hydroxide, inner salt, [4R-[4A]alpha, 5S,6S(R*)]- [CAS]	120410-24-4 15585-70-3 6915-57-7	EP 289801	Beta-lactam antibiotic	Infection, beta-lactamase resistant
<b>Bibenzonitium</b>					
<b>Bibrocathol</b>	Propanamide, N-(4-cyano-3-(trifluoromethyl)phenyl)-3-[(4-fluorophenyl)sulfonyl]-2-hydroxy-2-methyl-, (+/-)- [CAS]	90357-06-5 66504-75-4 71195-57-8	EP 100172 DE 2740562 US 6294585	Anticancer, hormonal Analgesic, other Dermatological	Cancer, prostate Pain, general Unspecified
bicalutamide	3-Azabicyclo[3.1.0]hexane, 1-(4-methylphenyl)-, (+/-)- [CAS]	116078-65-0 479-81-2 6888-11-5			
bicifadine	bicyclic monoterpene diols				
<b>Bidisomide</b>					
<b>Bietamiverline</b>					
<b>Bietanaufine</b>					

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<b>Bietaserpine</b>		53-18-9			
bifemelane	1-Butanamine, N-methyl-4-[2-(phenylmethyl)phenoxy]-, hydrochloride [CAS]	62232-46-6 90293-01-9 34633-34-6 60628-96-8 60629-08-5 60629-09-6	GB 1512880	Cognition enhancer	Attention deficit disorder
<b>Bifluranol</b>					
bifonazole	1H-Imidazole, 1-([1,1'-biphenyl]-4-ylphenylmethyl)- [CAS] 5-Heptenamide, 7-(3,5-dihydroxy-2-(3-hydroxy-5-phenyl-1-pentenyl)cyclopentyl)-N-ethyl (1R- (1Alpha(Z)/2S(1E;3S;3Alpha;5Alpha)) [CAS] N-[2-hydroxy-3-(1-piperidinyl)propoxy]-3-pyridinecarboximidoyl chloride, (Z)-2-butanedioate (1:1) (1,1'-Biphenyl)-3-acetic acid, 3',3'''-(1,6-hexanediyl)bis(6'-Alpha-D-mannopyranosyloxy)-, [CAS]	155206-00-1 130493-04-8 187269-40-5 69047-39-8	US 5688819 US 5147874 US 5444050	Prostaglandin Symptomatic antidiabetic Asthma	Glaucoma Neuropathy, diabetic
bimocromol					
bimostamose					
<b>Binifibrate</b>					
binodenoson	Adenosine, 2-(((cyclohexylmethylene)hydrazino)- [CAS]	144348-08-3	US 6423744	Vasodilator, coronary Anticancer, other	Diagnosis, coronary Cancer, renal
Biomed-101					
<b>Biotin</b>					
<b>Biperiden</b>					
	2-Piperidinecarboxylic acid, 1-(oxo(3,4,5-trimethoxyphenyl)acetyl)-, 4-(3-pyridinyl)-1-(3-(3-pyridinyl)propyl)butyl ester, (S)-, 2-hydroxy-1,2,3-propanetricarboxylate (1:2) [CAS] 1-Butanone, 1-(4-fluorophenyl)-4-(3,4,6,7,12,12a-hexahydropyrazino[1',2':1,6]pyrido[3,4-b]indol-2(1H)-yl)- [CAS]	174254-13-8 15997-94-1		Radio/chemosensitizer	Cancer, breast
bifricodar					
biperone					
<b>Bisacodyl</b>		42021-34-1 603-50-9	DE 2333922	Neuroleptic	

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Bisantrene		78186-34-2			
Bisbentamine		2667-89-2			
Biedequalinium		52951-36-7			
Bismuth Aluminate		12284-76-3			
Bismuth		53897-25-9			
Butylthiolaurate		52951-37-8			
Bismuth Ethyl					
Camphorate		138-58-9			
Bismuth Iodosubgallate					
Bismuth Sodium Iodide		53778-50-0			
Bismuth Sodium		5798-43-6			
Triglycollamate		5892-10-4			
Bismuth Subcarbonate		22650-86-8			
Bismuth Subgallate		1304-85-4			
Bismuth Subnitrate		14882-18-9			
Bismuth Subsalicylate		5175-83-7			
Bismuth					
Tribromophenate					
bisoprolol	2-Propanol, 1-[4-[[2-(1-methylethoxy)ethoxy]methyl]phenoxy]-3-[(1-methylethyl)amino]- [CAS]	104344-23-2 66722-44-9	GB 1532380	Antihypertensive, adrenergic	Heart failure
bisoprolol + HCTZ	2-Propanol, 1-[4-[[2-(1-methylethoxy)ethoxy]methyl]phenoxy]-3-[(1-methylethyl)amino] mixt. with 6-chloro-3,4-dihydro-2H-1,2,4-benzothiadiazine-7-sulfonamide 1,1-dioxide			Formulation, fixed-dose combinations	Hypertension, general
bisoprolol+trichloromethiazide	2-Propanol, 1-[4-[[2-(1-methylethoxy)ethoxy]methyl]phenoxy]-3-[(1-methylethyl)amino] mixt. with 6-chloro-3-(dichloromethyl)-3,4-dihydro-2H-1,2,4-benzothiadiazine-7-sulfonamide 1,1-dioxide			Formulation, fixed-dose combinations	Hypertension, general

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Bisoxatin		14008-48-1			
Bithionol		97-18-7			
Bitolterol		30392-40-6			
Bitoscanate		4044-65-9			
BL-3875			WO 0218378	Anti-inflammatory	Unspecified
bleomycin	Bleomycin [CAS]	11056-06-7			
	Cycloocta[b]pyridine, 2-(4-ethyl-1-piperazinyl)-4-(4-fluorophenyl)-5,6,7,8,9,10-hexahydro- [CAS]	9041-93-4		Formulation, transdermal, enhanced	Cancer, head and neck
blonanserine			EP 385237	Neuroleptic	Schizophrenia
BMS-184476			EP 639577	Anticancer, other	Cancer, breast
BMS-387032	cis-(+)-2-(Ethythio)-5,7-dihydroxy-8-(3-hydroxy-1-methyl-4-piperidinyl)-4H-1-benzopyran-4-one	132810-10-7			
	4-[2-(aminomethyl)-1,3-thiazol-4-yl]-2,6-dimethyl-1-phenol, dihydrochloride		WO 9742949	Anticancer, other	Cancer, general
BN-82451	Ethanesulfonic acid, 2,2'-dithiobis-, disodium salt [CAS]	16208-51-8		Neuroprotective	Unspecified
BNP-7787				Radio/chemoprotective	Chemotherapy-induced nausea and vomiting
BO-653					
Bolandirol	5-Benzofuranol, 4,6-bis(1,1-dimethylethyl)-2,3-dihydro-2,2-dipentyl- [CAS]	157360-23-1	WO 9408930	Hypolipaeamic/Antiatherosclerosis	Atherosclerosis
Bolasterone		19793-20-5			
Boldenone		1605-89-6			
		846-48-0			
bopindolol	2-Propanol, 1-[(1,1-dimethylethyl)amino]-3-[[2-methyl-1H-indol-4-yl]oxy]-, benzoate (ester), (+/-) [CAS]	62658-63-3			
Bornyl Chloride		82857-38-3	US 4340541	Antihypertensive, adrenergic	Hypertension, general
Bornyl Salicylate		464-41-5			
		560-88-3			
bortezomib	Boric acid, [(1R)-3-methyl-1-[(2S)-1-oxo-3-phenyl-2-[(pyrazinylcarbonyl)amino]propyl]aminolbutyl]- [CAS]	179324-69-7	US 6271199	Anticancer, other	Cancer, myeloma

Table IV

API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
bosentan	Benzenesulfonamide, 4-((1,1-dimethylethyl)-N-[6-(2-hydroxyethoxy)-5-(2-methoxyphenoxy)]-2,2'-bipyrimidin)-4-yl)- [CAS]	147536-97-8	EP 633259	Vasodilator, peripheral	Hypertension, pulmonary
BP2.94	Phenol, 2-[[[(1R)-2-(1H-imidazol-4-yl)-1-methylethyl]imino]phenylmethyl]- [CAS]	139191-80-3	WO 9117146	Respiratory	Rhinitis, general
BP4.897	N-[4-[4-(2-methoxyphenyl)-1-piperazinyl]butyl]naphthalene-2-carboxamide				
$\beta$ -Propiolactone		57-57-8	EP 779284	Dependence treatment	Addiction, cocaine
Bradycor		140661-97-8			
Brain Natriuretic Peptide		114471-18-0			
Brallobarbitol		561-86-4			
brasofensine	8-Azabicyclo(3.2.1)octane-2-carboxaldehyde, 3-(3,4-dichlorophenyl)-8-methyl-, O-methylloxime, (1R-, (1 $\alpha$ ), 2 $\alpha$ ), (E), 3 $\alpha$ ), 5 $\alpha$ ), 6 $\alpha$ )- [CAS]	171655-91-7	WO 9528401	Antiparkinsonian	Parkinson's disease
Bregularin		96187-53-0			
Bretylum		61-75-6			
Brilliant Green		633-03-4			
brimonidine	6-Quinoxalinamine, 5-bromo-N-(4,5-dihydro-1H-imidazol-2-yl)- [CAS]	59803-98-4	DE 2538620	Antiglaucoma	Glaucoma
brinzolamide	2H-Thieno(3,2-e)-1,2-thiazine-6-sulfonamide, 4-(ethylamino)-3,4-dihydro-2-(3-methoxypropyl)-, 1,1-dioxide, (R)- [CAS]				
brivudin	Uridine, 5-(2-bromoethenyl)-2'-deoxy, (E)- [CAS]	138890-62-7	US 5378703	Antiglaucoma	Glaucoma
Brodinoprim		69304-47-8		Antiviral, other	Infection, varicella zoster virus
Bromazepam		56518-41-3			
bromfenac		1812-30-2			
Bromhexine	Benzeneacetic acid, 2-amino-3-(4-bromobenzoyl)- [CAS]	91714-93-1			
Bromindione		91714-94-2			
Bromisovalum		3572-43-8		Formulation, mucosal, topical	Inflammation, ocular
		1146-98-1			
		496-67-3			

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API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
Bromocriptine		25614-03-3			
Bromodiphenhydramine		118-23-0			
Bromoform		75-25-2			
Bromopride		4093-35-0			
Bromosalicylchloranilide		3679-64-9			
bromperidol	1-Butanone, 4-[4-(4-bromophenyl)-4-hydroxy-1-piperidinyl]-1-(4-fluorophenyl) [CAS]	10457-90-6	US 3438991	Neuroleptic	Psychosis, general
Brompheniramine		86-22-6			
Proparacetamol		479-68-5			
Propiridine	4-(2-Bromoacrylamido)-N <sup>m</sup> -(2-guanidinoethyl)-1,1',1'',1'''-tetramethyl-N,4':N',4''':N''':N''''-quater-[pyrrole-2-carboxamide] [CAS]	56741-95-8			
brotizolam	6H-Thieno[3,2-f][1,2,4]triazolo[4,3-a][1,4]diazepine, 2-bromo-4-(2-chlorophenyl)-9-methyl- [CAS]	57801-81-7	US 4094984	Hypnotic/Sedative	Cancer, general
Brovincamine		57475-17-9			
Broxuridine		59-14-3			
Broxyquinoline		521-74-4			
Brucine		357-57-3			
$\beta$ -Sitosterol		83-46-5			
Bucetin		1083-57-4			
Bucillamine		65002-17-7			
Bucindolol		71119-11-4			
bucledesine	Adenosine, N-(1-oxobutyl)-, cyclic 3',5'-(hydrogen phosphate) 2'-butanoate [CAS]	362-74-3	JP 51113896	Cardiosimulant	Wound healing
Bucizine		82-95-1			
Buclosamide		575-74-6			
Bucolome		841-73-6			
bucricaine	9-Acridinamine, N-butyl-1,2,3,4-tetrahydro-, monohydrochloride [CAS]	82636-28-0		Anaesthetic, local	

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<b>Bucumolol</b>	Pregna-1,4-diene-3,20-dione, 16,17-[butylidenebis(oxy)]-11,21-dihydroxy-, (11S,16Alpha)- [CAS]	58409-59-9			
budesonide		51333-22-3	GB 1429922	Antiasthma	Asthma
budesonide + formoterol	Pregna-1,4-diene-3,20-dione, 16,17-[butylidenebis(oxy)]-11,21-dihydroxy-, (11S,1bAlpha) + formamide, N-[2-hydroxy-5-[1-hydroxy-2-[2-(4-methoxyphenyl)-1-methylethyl]amino]ethyl]phenyl]- (R*, R*)-(±)				
bupirine	Piperidine, 1-(1,1-dimethylethyl)-4,4-diphenyl- [CAS]	57982-78-2 163661-61-0	DE 2825322	Formulation, fixed-dose combinations Antiparkinsonian	Asthma Parkinson's disease
<b>Budralazine</b>		36798-79-5			
<b>Bufenlode</b>		22103-14-6			
<b>Bufetolol</b>	p-butoxyacetohydroxamic acid	53684-49-4	US 3479396	Anti-inflammatory	
bufexamac	1-Butanone, 4-(1-pyrrolidinyl)-1-(2,4,6-trimethoxyphenyl)- [CAS]	2438-72-4 35543-24-9 55837-25-7	GB 1325192	Vasodilator, peripheral	
bufomedil		692-13-7			
<b>Bufornin</b>		54340-62-4			
<b>Bufuralol</b>		3583-64-0			
<b>Bumadizon</b>	Benzoic acid, 3-(aminosulfonyl)-5-(butylamino)-4-phenoxy- [CAS]	28395-03-1	US 3806534	Antihypertensive, diuretic	Hypertension, general
bumetanide	1-Naphthalenecarboxamide, N-butyl-N-[2-(diethylamino)ethyl]- [CAS]	32421-46-8 1923-76-8	DE 2009894	Antiarrhythmic	
bunafine					
<b>Bunamfodyl Sodium</b>	1H-1,4-Diazepine, 1-(4-amino-6,7-dimethoxy-2-quinazolinyl)hexahydro-4-(1-oxobutyl)- [CAS]	52712-76-2 80755-51-7	GB 1398455	Antihypertensive, adrenergic	Hypertension, general
bunazosin	Benzonitrile, 2-[3-[(1,1-dimethylethyl)amino]-2-hydroxypropoxy]- [CAS]	34915-68-9 38396-39-3 2180-92-9	US 3940489	Antihypertensive, adrenergic Formulation, modified-release, >24hr	Anaesthesia
bunitrolol	2-Piperidinecarboxamide, 1-butyl-N-(2,6-dimethylphenyl)- [CAS]	14556-46-8			
bupivacaine					
<b>Bupranolol</b>					



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buprenorphine	6,14-Ethenomorphinan-7-methanol, 17-(cyclopropylmethyl)-Alpha-(1,1-dimethylethyl)-4,5-epoxy-18,19-dihydro-3-hydroxy-6-methoxy-Alpha-methyl-, [5Alpha,7Alpha(S)]-, [CAS]	52485-79-7 53152-21-9	US 3433791	Anaesthetic, other	
bupropion	1-Propanone, 1-(3-chlorophenyl)-2-[(1,1-dimethylethyl)amino]-, (+)-, [CAS]	31677-93-7 34911-55-2 45663-83-6	US 4425363	Antidepressant	Depression, general
<b>Buramate</b>	Luteinizing hormone-releasing factor (pig), 6-[O-(1,1-dimethylethyl)-D-serine]-9-(N-ethyl-L-prolinamide)-10-deglycinamide-, [CAS]	57982-77-1 68630-75-1	GB 1523623	Releasing hormones	Cancer, prostate
buserelin	8-Azaspiro[4.5]decane-7,9-dione, 8-(4-(4-(2-pyrimidinyl)-1-piperazinyl)butyl)-[CAS]	36505-84-7	EP 276536	Anxiolytic	Anxiety, general
buspirone	1,4-Butanediol, dimethanesulfonate [CAS]	55-98-1		Formulation, optimized, microparticles	Cancer, general Cancer, leukaemia, acute myelogenous
busulfan	1,4-Butanediol, dimethanesulfonate- [CAS]	55-98-1		Formulation, parenteral, other	
busulfan	1,4-Butanediol, dimethanesulfonate- [CAS]	55-98-1			
<b>Butabarbital</b>		143-81-7			
<b>Butacaine</b>		149-16-6			
<b>Butacetin</b>		2109-73-1			
<b>Butalamine</b>		22131-35-7			
<b>Butalbital</b>		77-26-9			
<b>Butallylonal</b>		1142-70-7			
butamben	4-Aminobenzoic acid butyl ester [CAS]	94-25-7		Formulation, modified-release, other	Pain, cancer
butamirate	Benzeneacetic acid, Alpha-ethyl-, 2-[(diethylamino)ethoxy]ethyl ester, 2-hydroxy-1,2,3-propanetricarboxylate (1:1) [CAS]	18109-80-3 18109-81-4 3785-21-5 653-03-2 55837-14-4 16790-49-1 51395-42-7		Antitussive	Cough
<b>Butanillicaine</b>					
<b>Butaperazine</b>					
<b>Butaverine</b>					
<b>Butazolamide</b>					
<b>Butedronic Acid</b>					

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butenafine	1-Naphthalenemethanamine, N-((4-(1,1-dimethylethyl)phenyl)methyl)-N-methyl- [CAS]	101827-46-7 101828-21-1 77-28-1	EP 164697	Antifungal	Infection, dermatological
<b>Butethal</b>		14007-64-8			
<b>Butethamate</b>		2090-89-3			
<b>Butethamine</b>		510-90-7			
<b>Buthalital</b>		2043-38-1			
<b>Butiazide</b>		55837-18-8			
<b>Butibufen</b>		1506-12-3			
<b>Butidrine</b>					
butobendine	benzoic acid, 3,4,5-trimethoxy-, 1,2-ethanediybis[(methylimino)(2-ethyl-2,1-ethanediy)] ester, [S-(R*, R*)]- [CAS]	55769-64-7 55769-65-8	US 4021473	Antiarrhythmic	Arrhythmia, general
butoconazole	1H-Imidazole, 1-(4-(4-chlorophenyl)-2-[(2,6-dichlorophenyl)thio]butyl)-, (+/-)- [CAS]	64872-76-0 64872-77-1	GB 1567431	Antifungal	Infection, Candida, general
<b>Butoctamide</b>		32838-26-9			
<b>Butofilolol</b>		64552-17-6			
butorphanol	Morphinan-3,14-diol, 17-(cyclobutylmethyl)-, [S-(R*, R*)]-2,3-dihydroxybutanedioate (1:1) (salt) [CAS]	42408-82-2 58786-99-5	GB 1412129	Analgesic, other	
<b>Butoxycaine</b>		3772-43-8			
<b>Butriptyline</b>		35941-65-2			
<b>Butropium</b>		29025-14-7			
<b>Buzepide</b>		3691-21-2			
BVT-5182			WO 0208178	Anorectic/Antiobesity	Obesity
BXT-51072	2H-1,2-Benzoselenazine, 3,4-dihydro-4,4-dimethyl- [CAS]	173026-17-0		GI inflammatory/bowel disorders	Colitis, ulcerative
C-1311	6H-Imidazo[4,5,1-de]acridin-6-one, 5-[[2-(diethylamino)ethylamino]-8-hydroxy-, 2HCl, 2H <sub>2</sub> O			Anticancer, other	Cancer, general
cabergoline	Ergoline-8-carboxamide, N-[3-(dimethylamino)propyl]-N-[(ethylamino)carbonyl]-6-(2-propenyl)-, (8S)- [CAS]	81409-90-7 85329-89-1	GB 2103603	Antiprolactin	Galactorrhoea



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calcium hopantothenate	Calcium D-(+)-4-(2,4-dihydroxy-3,3-dimethylbutyramido)butyrate (hemihydrate) [CAS]	17097-76-6 1319-91-1 1301-16-2 814-80-2 591-64-0 21085-60-9 16649-79-9	EP 117260	Neurological	Attention deficit disorder
<b>Calcium Iodobehenate</b>					
<b>Calcium Iodostearate</b>					
<b>Calcium Lactate</b>					
<b>Calcium Levulinat</b>					
<b>Calcium Mesoxalate</b>					
<b>Calcium N-</b>					
<b>Carbamoylaspartate</b>					
calcium polycarbophil	Polycarbophil, calcium salt- [CAS]	126040-58-2 9003-97-8 4075-81-4 140-99-8		GI inflammatory/bowel disorders	Irritable bowel syndrome
<b>Calcium Propionate</b>					
<b>Calcium Succinate</b>					
calcaret	5-methyl-2-(1-piperazinyl)-benzenesulfonic acid monohydrate	133804-44-1 17021-26-0 36104-80-0		Cardio stimulant	Heart failure
<b>Calusterone</b>					
<b>Camazepam</b>					
camostat	Benzeneacetic acid, 4-[[4-[(aminoiminomethyl)amino]benzoyloxy]-2-(dimethylamino)-2-oxoethyl ester, monomethanesulfonate [CAS]	59721-28-7 59721-29-8 71079-09-9 76-22-2 4876-45-3	US 4021472	GI inflammatory/bowel disorders	Pancreatitis
<b>Camphor</b>					
<b>Camphotamide</b>	4-Ethyl-4-hydroxy-1H-pyrano-[[3',4':6,7]indolizino][1,2-b]quinoline-3,14(4H,12H)-dione				
camptothecin	1H-Benzimidazole-7-carboxylic acid, 2-ethoxy-1-[[2'-(1H-tetrazol-5-yl)][1,1'-biphenyl]-4-yl]methyl-, 1-[[[(cyclohexyloxy)carbonyloxy]ethyl ester, (+)-] [CAS]	139481-59-7		Formulation, optimized, microemulsion	Cancer, general
<b>Candesartan</b>					
candesartan cilexetil		145040-37-5 123122-55-4	EP 520423	Antihypertensive, renin system	Hypertension, general
<b>Candoxatril</b>					

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canertinib	N-[4-(3-(chloro-4-fluoro-phenylamino)-7-(3-morpholin-4-yl-propoxy)-quinazolin-6-yl)-acrylamide]	289499-45-2 976-71-6 56-25-7		Anticancer, other	Cancer, lung, non-small cell
<b>Canrenone</b>					
<b>Cantharidin</b>	Maytansine, N2-deacetyl-N2-(3-mercaptopropyl)-, conjugated humanized C242 monoclonal antibody				
canluzumab mertansine		139504-50-0		Immunotoxin	Cancer, colorectal
capecitabine	Cytidine, 5-deoxy-5-fluoro-N-[(pentyloxy)carbonyl]- [CAS]	154361-50-9 21434-91-3	EP 602454	Anticancer, antimetabolite	Cancer, breast
<b>Capobenic Acid</b>					
capravirine	1H-imidazole-2-methanol, 5-(3,5-dichlorophenyl)thio-4-(1-methylethyl)-1-(4-pyridinyl)methyl carbamate (ester) [CAS]	178979-85-6 151763-64-3		Antiviral, anti-HIV	Infection, HIV/AIDS
<b>Capromab</b>					
capsaicin cream	N-[(4-hydroxy-3-methoxyphenyl)methyl]-8-methyl-, (E)- [CAS]	404-86-4 486-17-9		Formulation, dermal, topical	Pain, post-herpetic
<b>Captodilamine</b>					
captopril	L-Proline, 1-(3-mercaptopropyl)-1-oxopropyl-, (S)- [CAS] L-Proline, 1-(3-mercaptopropyl)-1-oxopropyl-, (S)-, mixt. with 6-chloro-3,4-dihydro-2H-1,2,4-benzothiazine-7-sulfonamide 1,1-dioxide [CAS]	62571-86-2 110075-07-5 5579-13-5	US 4105776 US 4217347	Antihypertensive, renin system Antihypertensive, renin system	Hypertension, general
captopril + HCTZ					
<b>Capuride</b>					
carbarsat	Benzamide, N-(6-acetyl-3,4-dihydro-3-hydroxy-2,2-dimethyl-2H-1-benzopyran-4-yl)-4-fluoro, (3R-trans)- [CAS]	184653-84-7 77-22-5	WO 9811890	Antiepileptic	Epilepsy, general
<b>Caramiphen</b>					
carazolol	2-Propanol, 1-(9H-carbazol-4-yloxy)-3-[(1-methylethyl)amino]- [CAS]	57715-29-8 51-83-2	DE 2240599	Antihypertensive, adrenergic	
<b>Carbachol</b>					
carbamazepine	5H-Dibenz[b,f]azepine-5-carboxamide [CAS]	298-46-4		Formulation, modified-release, other	Epilepsy, general

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API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
Carbamide Peroxide		124-43-6			
Carbarsone		121-59-5			
Carbaryl		63-25-2			
Carbazochrome		13051-01-9			
		51460-26-5			
carbendazim	Methyl-2-benzimidazolecarbamate			Anticancer, other	Cancer, general
Carbenicillin		4697-36-3			
Carbenoxolone		5697-56-3			
Carbetapentane		77-23-6			
Carbicarb	Carbonic acid disodium salt, mixt. with monosodium salt- [CAS]	72227-05-5		Alimentary/Metabolic, other	Acidosis
Carbidopa	S-Alpha Hydrazino-3,4-dihydroxy-Alpha methyl benzene propanoic acid monohydrate +3-hydroxy-L-tyrosine	28860-95-9			
carbidopa+levodopa-1					
Carbimazole		22232-54-8		Formulation, fixed-dose combinations	Parkinson's disease
Carbinoxamine		486-16-8			
Carbocloral		541-79-7			
		151756-26-2			
carbocysteine		638-23-3	EP 546272	Cystic fibrosis treatment	Cystic fibrosis
Carbon Tetrachloride		56-23-5			
	Platinum, diammine[1,1-cyclobutanedicarboxylato(2-)]-, (SP-4-2)- [CAS]			Anticancer, alkylating	Cancer, ovarian
carboplatin		41575-94-4			
Carboprost		35700-23-3			
	Prosta-5,13-dien-1-oic acid, 9,11,15-trihydroxy-15-methyl-, (5Z,9.alpha.,11Alpha,13E,15S)-, compd. with 2-amino-2-(hydroxymethyl)-1,3-propanediol(1:1) [CAS]				
carboprost trometamol	2,5-Cyclohexadiene-1,4-dione, 2-[2-[(aminocarbonyl)oxy]-1-methoxyethyl]-3,6-bis(1-aziridinyl)-5-methyl- [CAS]	58551-69-2 74849-93-7	US 3728382	Prostaglandin	Abortion
Carboquone		24279-91-2	IDE 1905224	Anticancer, antibiotic	
Carbromal		77-65-6			

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Carbubarb		960-05-4			
Carbutamide		339-43-5			
Carbuterol		34866-47-2			
Carfimate		3567-38-2			
carglumic acid	N-Carbamoyl-L-glutamic acid	1188-38-1		Metabolic and enzyme disorders	Hyperammonaemia
Cargutocin		33605-67-3			
Carindacillin		35531-88-5			
cariporide	Benzamide, N-(aminiminomethyl)-4-(1-methylethyl)-3-(methylsulfonyl)- [CAS]	159138-80-4	EP 589336	Antianginal	Angina, general
Carisoprodol		159138-80-4			
carimofur	1(2H)-Pyrimidinecarboxamide, 5-fluoro-N-hexyl-3,4-dihydro-2,4-dioxo- [CAS]	61422-45-5	US 4071519	Anticancer, antimetabolite	
Carmoxirole		98323-83-2			
carmustine	Urea, N,N'-bis(2-chloroethyl)-N-nitroso- [CAS]	154-93-8		Formulation, implant	Cancer, brain
Carnitine		461-06-3			
Caroverine		23465-76-1			
Caroxazone		18464-39-6			
Carphenazine		2622-30-2			
Carpipramine		5942-95-0			
carprofen	9H-Carbazole-2-acetic acid, 6-chloro-Alpha-methyl-, (+/-)- [CAS]	53716-49-7	US 3896145	Anti-inflammatory	
Carsalam		2037-95-8			
cartecol	2(1H)-Quinolone, 5-[3-[(1,1-dimethylethyl)amino]-2-hydroxypropoxy]-3,4-dihydro-, monohydrochloride [CAS]	51781-06-7 51781-21-6	US 3910924	Antihypertensive, adrenergic	Glaucoma
Carticaine		23964-58-1			
Carubicin		50935-04-1			
Carumonam		87638-04-8			
Carvacrol		499-75-2			
carvedilol	2-Propanol, 1-(9H-carbazol-4-yloxy)-3-[(2-(2-methoxyphenoxy)ethyl)amino]-[CAS]	72956-09-3	EP 4920	Antihypertensive, adrenergic	Hypertension, general

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Carvone	Pneumocandin B0, 1-((4R,5S)-5-((2-aminoethyl)amino)-N2-(10,12-dimethyl-1-oxotetradecyl)-4-hydroxy-L-ornithine)-5-oxotetradecyl)-4-hydroxy-L-ornithine), diacetate (salt) [CAS]	99-49-0 10118-56-6			
Casparillin					
caspofungin		162808-62-0 179463-17-3 154-23-4	WO 9421677	Antifungal	Infection, Aspergillus
Catechin					
cathepsin K inhibitors	N-(1-benzothien-2-ylcarbonyl)-N12-(2-fluorophenyl)-4-oxo-1,2,3,4-tetrahydropyrimidin-5-yl]-L-leucinamide N-(1-benzothien-2-ylcarbonyl)-N12-(2-fluorophenyl)-4-oxo-1,2,3,4-tetrahydropyrimidin-5-yl]-L-leucinamide		WO 9613523	Osteoporosis treatment	Osteoporosis
cathepsin S inhibitors				Antiasihma	Asthma
CC-401			US 6342595	Immunosuppressant	Arthritis, rheumatoid
CCI-779	Rapamycin 42-(3-hydroxy-2-(hydroxymethyl)-2-methylpropanoate) [CAS]	162635-04-3	WO 9732019 US 634061 US 5605914	Anticancer, antibiotic Antiviral, anti-HIV Anticancer, other GI inflammatory/bowel disorders	Cancer, renal Infection, HIV/AIDS Cancer, myeloma Crohn's disease
CCR5 antagonists					
CDC-394					
CDC-801					
CEE-03-310	1H-3-Benzazepin-7-ol, 5-((2,3-dihydro-7-benzofuran-2,3,4,5-tetrahydro-3-methyl-8-nitro, (5S)-[CAS] 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 7- [(aminophenylacetyl)amino]-3-chloro-8-oxo-, [6R-[6Alpha,7B(R*)]]- [CAS] 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 7-[(amino(4-hydroxyphenyl)acetyl)amino]-3-methyl-8-oxo-, [6R-[6Alpha,7B(R*)]]- [CAS] 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 7-[(aminophenylacetyl)amino]-3-methyl-8-oxo-, [CAS]	128022-68-4 53994-73-3 70356-03-5 50370-12-2 66592-87-8 105879-42-3 15686-71-2	EP 347672 GB 1461323 GB 1240687 US 4775751	Dependence treatment Cephalosporin, oral Cephalosporin, oral Cephalosporin, oral	Addiction, alcohol Infection, Haemophilus influenzae prophylaxis Infection, general Infection, respiratory tract, upper
cefactor					
cefadroxil					
cefalexin					



Table IV

API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
cefalexin pivoxil	5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 7-[[[aminophenyl]acetyl]amino]-3-methyl-8-oxo-, (2,2-dimethyl-1-oxopropoxy)methyl ester, monohydrochloride, [6R-[6Alpha,7beta(R*)]]- [CAS]	27726-31-4		Cephalexosporin, oral	Infection, general
	7-D-mandelamido-3[[[1-methyl-1H-tetrazol-5-yl]thio]methyl]-3-cephem-4-carboxylic acid	34444-01-4	US 3641021	Cephalexosporin, injectable	Infection, general
	5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 7-[[[amino(4-hydroxyphenyl)acetyl]amino]-8-oxo-3-[(1H-1,2,3-triazol-4-ylthio)methyl]-, [6R-[6Alpha,7beta(R*)]]- [CAS]	51627-14-6 56187-47-4 25953-19-9 76610-84-9	GB 1450914	Cephalexosporin, oral	Infection, general
cefazidime Cefazedone Cefazolin Cefbuperazone	7beta-[(Z)-2-(2-amino-4-thiazolyl)-2-pentenoyl]amino]-3-carbamoyloxymethyl-3-cephem-4-carboxylic acid, pivaloyloxymethyl ester HCl [CAS]	105889-45-0 105889-46-1 105239-91-6	GB 2173194	Cephalexosporin, oral	Infection, respiratory tract, general
cefclidlin	5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 7-[[[2-amino-4-thiazolyl]((hydroxyimino)acetyl]amino)-3-ethenyl-8-oxo-, [6R-[6Alpha,7beta(Z)]]- [CAS]	91832-40-5	EP 105459	Cephalexosporin, oral	Infection, dermatological
	5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 7-[[[2-amino-4-thiazolyl]((methoxyimino)acetyl]amino)-3-[(4-methyl-5-thiazolyl)ethenyl]-8-oxo-, (2,2-dimethyl-1-oxopropoxy)methyl ester, [6R-[3(Z),6Alpha,7beta(Z)]]- [CAS]	104145-95-1 104146-53-4 117467-28-4	JP 61178991	Cephalexosporin, oral	Infection, general

Table IV

API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
cefepime <b>Cefetamet</b>	Pyroldinium, 1-[[7-[(2-amino-4-thiazolyl)(methoxymino)acetyl]amino]-2-carboxy-8-oxo-5-thia-1-azabicyclo[4.2.0]oct-2-en-3-yl]methyl]-1-methyl-, hydroxide, inner salt, [6R-[6Alpha,7B(Z)]]- [CAS]	107648-80-6 123171-59-5 88040-23-7 65052-63-3	EP 531881	Cephalexin, injectable	Infection, respiratory tract, lower
	5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 7-[[[(2-amino-4-thiazolyl)(methoxymino)acetyl]amino]-3-methyl-8-oxo-, (2,2-dimethyl-1-oxopropoxy)methyl ester, monohydrochloride, [6R-[6Alpha,7B(Z)]]- [CAS]	111696-23-2	GB 1581854	Cephalexin, oral	Infection, general
ceftriaxone	5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 7-[[[(2-amino-4-thiazolyl)((carboxymethoxy)imino)acetyl]amino]-3-ethenyl-8-oxo-, [6R-[6Alpha,7B(Z)]]- [CAS]	79350-37-1	EP 30630	Cephalexin, oral	Infection, general
	5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 7-[[[(2-amino-4-thiazolyl)(methoxymino)acetyl]amino]-3-[[[(1-methyl-1H-tetrazol-5-yl)thio]methyl]-8-oxo-, [6R-[6Alpha,7B(Z)]]- [CAS]	65085-01-0 75738-68-8	GB 1536281	Cephalexin, injectable	Infection, ocular
cefmetazole	5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 7-[[[(cyanomethyl)thio]acetyl]amino]-7-methoxy-3-[[[(1-methyl-1H-tetrazol-5-yl)thio]methyl]-8-oxo-, [6R-[6Alpha,7B(Z)]]- [CAS]	56796-20-4 56796-39-5	GB 1449420	Cephalexin, injectable	Infection, general
cefminox	5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 7-[[[(2-amino-2-carboxyethyl)thio]acetyl]amino]-7-methoxy-3-[[[(1-methyl-1H-tetrazol-5-yl)thio]methyl]-8-oxo-, [6R-[6Alpha,7B(Z)]]- [CAS]	84305-41-9	EP 24879	Cephalexin, injectable	Infection, urinary tract

Table IV

API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
cefodizime	5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 7-[[[2-amino-4-thiazolyl](methoxymino)acetyl]amino]-3-[[[5-(carboxymethyl)-4-methyl-2-thiazolyl]thio]methyl]-8-oxo-, [6R-[6Alpha,7δ(Z)]]- [CAS]	69739-16-8 86329-79-5	US 4590267	Cephalosporin, injectable	Infection, respiratory tract, lower
cefonicid	5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 7-[[[1-[(hydroxyphenylacetyl)amino]-8-oxo-3-[[[1-(sulformethyl)-1H-tetrazol-5-yl]thio]methyl]-disodium salt, [6R-[6Alpha,7δ(R*)]]]- [CAS]	61270-78-8 61270-58-4	GB 1547473	Cephalosporin, injectable	Infection, general
cefoperazone cefoperazone + sulbactam <b>Ceforanide</b>	5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 7-[[[4-ethyl-2,3-dioxo-1-piperazinyl]carbonyl]amino](4-hydroxyphenyl)acetyl]amino]-3-[[[1-(methyl-1H-tetrazol-5-yl)thio]methyl]-8-oxo-, [6R-[6Alpha,7δ(R*)]]]- [CAS]	62893-19-0 92739-15-6 60925-61-3	GB 1508071 US 4234579	Cephalosporin, injectable Antibiotic, other	Infection, general Infection, general
cefotelsis	5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 7-[[[2-amino-4-thiazolyl](methoxymino)acetyl]amino]-3-[[[2,3-dihydro-2-(2-hydroxyethyl)-3-imino-1H-pyrazol-1-yl]methyl]-8-oxo-, [6R-[6Alpha,7δ(Z)]]	122841-12-7 122841-10-5	EP 307804	Cephalosporin, injectable	Infection, general
cefotaxime <b>Cefotetan</b>	(6R,7R)-7-[[[2-amino-4-thiazolyl](methoxymino)acetyl]amino]cephalosporanic acid sodium salt	64485-93-4 63527-52-6 69712-56-7	GB 1580621	Cephalosporin, injectable	Infection, general
ceftriaxone	5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 7-[[[2-amino-4-thiazolyl]acetyl]amino]-3-[[[1-(2-dimethylamino)ethyl]-1H-tetrazol-5-yl]thio]methyl]-8-oxo-, (6R-trans)- [CAS]	61622-34-2 56309-69-1	US 4080498	Cephalosporin, injectable	Infection, general

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API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
cefotiam hexetil	1-(cyclohexyloxy)carbonyloxyethyl 7β-(2-(2-aminothiazol-4-yl)acetamido)-3-[[1-(2-dimethylaminoethyl)-1H-tetrazol-5-yl]thio]methyl]ceph-3-am-4-carboxylate 2HCl [CAS]	95789-30-3	EP 128029	Cephalosporin, oral	Infection, respiratory tract, lower
cefoxitin	5-Thia-1-azabicyclo(4.2.0)oct-2-ene-2-carboxylic acid, 3-(((aminocarbonyloxy)methyl)-7-methoxy-8-oxo-7-(2-thienylacetyl)amino)-, monosodium salt, (6R-cis)- [CAS]	33564-30-6 35607-66-0	GB 1348984	Cephalosporin, oral	Infection, general
ceftazopran	Imidazo[1,2-b]pyridazinium, 1-[7-[(5-amino-1,2,4-thiadiazol-3-yl)(methoxymino)acetyl]amino]-2-carboxy-8-oxo-5-thia-1-azabicyclo(4.2.0)oct-2-en-3-yl]methyl]-, hydroxide, inner salt, [6R-[6Alpha, 7β(2)]]- [CAS]	113359-04-9	EP 203271	Cephalosporin, injectable	Infection, general
cefpirimazole	Pyridinium, 1-[12-carboxy-7-[[[5(5-carboxy-1H-imidazol-4-yl)carbonyl]amino]phenylacetyl]amino]-8-oxo-5-thia-1-azabicyclo(4.2.0)oct-2-en-3-yl]methyl]-4-(2-sulfoethyl)-, hydroxide, inner salt, [6R-[6Alpha, 7β(R')]]- [CAS]	84880-03-5 85287-61-2	EP 60028	Cephalosporin, injectable	Infection, respiratory tract, general
cefpiramide	5-Thia-1-azabicyclo(4.2.0)oct-2-ene-2-carboxylic acid, 7-[[[4-(4-hydroxy-6-methyl-3-pyridinyl)carbonyl]amino][4-hydroxyphenyl]acetyl]amino]-3-[[1-(methyl-1H-tetrazol-5-yl)thio]methyl]-8-oxo-, [6R-[6Alpha, 7β(R')]]- [CAS]	70797-11-4	US 4156724	Cephalosporin, injectable	Infection, general
cefpime	5H-1-Pyridinium, 1-[7-[[2-amino-4-thiazolyl](methoxymino)acetyl]amino]-2-carboxy-8-oxo-5-thia-1-azabicyclo(4.2.0)oct-2-en-3-yl]methyl]-6,7-dihydro-, hydroxide, inner salt, [6R-[6Alpha, 7β(2)]]- [CAS]	84957-29-9 98753-19-6 87239-81-4	EP 64740	Cephalosporin, injectable	Infection, respiratory tract, lower

Cefpodoxime Proxetil

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API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
cefprozil	5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 7-[[amino(4-hydroxyphenyl)acetyl]amino]-8-oxo-3-(1-propenyl)-, [6R-[6Alpha,7(R*)]]- [CAS]	92665-29-7 121123-17-9	GB 2173798	Cephalosporin, oral	Infection, dermatological
	5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 7-[(amino-1,4-cyclohexadien-1-ylacetyl)amino]-3-methoxy-8-oxo-, [6R-[6Alpha,7(R*)]]- [CAS]	51762-05-1			
cefroxadine	Pyridinium, 4-(aminocarbonyl)-1-[[2-carboxy-8-oxo-7-[(phenylsulfonacetyl)amino]-5-thia-1-azabicyclo[4.2.0]oct-2-en-3-yl]methyl]-hydroxide, inner salt, [6R-[6Alpha,7(R*)]]- [CAS]	52152-93-9 62587-73-9	GB 1387656	Cephalosporin, injectable	Infection, pseudomonal
cefsulodin	Pyridinium, 1-[[7-[(2-amino-4-thiazolyl)](1-carboxy-1-methylethoxy)imino]acetyl]amino]-2-carboxy-8-oxo-5-thia-1-azabicyclo[4.2.0]oct-2-en-3-yl]methyl]-hydroxide, inner salt, [6R-[6Alpha,7(R*)]]- [CAS]	72558-82-8 82547-58-8 26973-24-0	GB 2025398	Cephalosporin, injectable	Infection, respiratory tract, upper
ceftazidime Ceftoram Ceftazole	5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 7-[[2-(2-amino-4-thiazolyl)-4-carboxy-1-oxo-2-butenyl]amino]-8-oxo-, [6R-[6Alpha,7(R*)]]- [CAS]	97519-39-6	EP 136721	Cephalosporin, oral	Infection, respiratory tract, lower
ceftibuten	5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 7-[[[(2-amino-4-thiazolyl)(methoxyimino)acetyl]amino]-8-oxo-, [6R-[6Alpha,7(R*)]]- [CAS]	68401-81-0 68401-82-1	GB 1600735	Cephalosporin, injectable	Infection, general

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API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
cefprozime alapivoxil	5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 7-[[2-[(2-amino-1-oxopropyl)amino]-4-thiazolyl] (methoxymino) acetyl]amino]-8-oxo-, (2,2-dimethyl-1-oxopropoxy)methyl ester, monohydrochloride, [6R-[6Alpha,7beta(Z,S*)]]- [CAS]	113812-94-5 135767-36-1	JP 62209112	Cephalosporin, oral	Infection, general
	5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 7-[[[2-amino-4-thiazolyl] (methoxymino) acetyl]amino]-8-oxo-3-[[[1,2,5,6-tetrahydro-2-methyl-5,6-dioxo-1,2,4-triazin-3-yl]thio]methyl]-, [6R-[6Alpha,7beta(Z)]]- [CAS]	73384-59-5 74578-69-1	GB 2022090	Cephalosporin, injectable	Infection, respiratory tract, lower
ceftriaxone	5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 3-[[[aminocarbonyloxy]methyl]-7-[[2-furanyl] (methoxymino) acetyl]amino]-8-oxo-, 1-(acetoxy)ethyl ester, [6R-[6Alpha,7beta(Z)]]- [CAS]	15686-71-2 64544-07-6	GB 1571683	Cephalosporin, oral	Infection, respiratory tract, upper
cefuroxime axetil	5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 3-[[[aminocarbonyloxy]methyl]-7-[[2-furanyl] (methoxymino) acetyl]amino]-8-oxo-, [6R-[6Alpha,7beta(Z)]]- [CAS]	55288-75-2 56238-63-2 82219-78-1	GB 1453049	Cephalosporin, injectable	Infection, general
Cefuzonam	Benzenesulfonamide, 4-(5-(4-methylphenyl)-3-(trifluoromethyl)-1H-pyrazol-1-yl)- [CAS]	169590-42-5	US 5760068	Antiarthritic, other	Arthritis, rheumatoid
celecoxib	Butanoic acid, octahydro-1,7,8-trihydroxy-6-indoliziny ester, [1S-(1Alpha,6beta,7Alpha,8beta,8ab)]- [CAS]	121104-96-9	US 5017563	Antiviral, other	Infection, hepatitis virus, general
celastrol	Urea, N-[3-acetyl-4-[(1,1-dimethylethyl)amino]-2-hydroxypropoxy]phenyl-N,N-diethyl- [CAS]	56980-93-9 57470-78-7 9004-58-4	GB 1441359	Antihypertensive, adrenergic	Angina, unstable
Cellulose Ethyl Hydroxyethyl Ether					

Table IV

API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
Centchroman	9,12-Epoxy-1H-diindolo[1,2,3-fg,3',2',1'-kl]pyrrolo[3,4-ij][1,6]benzodiazocine-10-carboxylic acid, 5,16-bis[(ethylthio)methyl]-2,3,9,10,11,12-hexahydro-10-hydroxy-9-methyl-1-oxo-, methyl ester, (9S,10R,12R)-[CAS]	31477-60-8			
CEP-1347	9,12-Epoxy-1H-diindolo[1,2,3-fg,3',2',1'-kl]pyrrolo[3,4-ij][1,6]benzodiazocine-1-one, 2,3,9,10,11,12-hexahydro-10-hydroxy-10-(hydroxymethyl)-9-methyl-, (9S,10S,12R)-[CAS]	156177-65-0	WO 9731002	Antiparkinsonian	Parkinson's disease
CEP-701		111358-88-4			
Cephacetrile		23239-41-0			
Cephalexine		483-17-0			
Cephalexin		15686-71-2			
Cephaloglycin		3577-1-3			
Cephaloridine		50-59-9			
Cephalosporin C		61-24-5			
Cephalothin		153-61-7			
Cephapirin		24356-60-3			
Cephradine		38821-53-3			
Cerivastatin		145599-86-6			
Ceronaipril captopril	Heparin [CAS]	111223-26-8		Anticoagulant	Thrombosis, venous
Ceruletide	Prosta-5,13-dien-1-oic acid, 11,15-dihydroxy-9-oxo-, (5Z,11Alpha,13E,-15S)-[CAS]	9005-49-6 17650-98-5			
Cerviprost		363-24-6			
Cetalkonium		122-18-9			
Cetamolol		34919-98-7		Formulation, dermal, topical	
Cethexonium		1794-74-7			

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API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
ceftromycin	2H-Oxacyclopentadecino(4,3-d)oxazole-2,6,8,14(1H,7H,9H)-tetraone 4-ethyloctahydro-3a,7,9,11,13,15-hexamethyl-11-((3-(3-quinolinyl)-2-propenyl)oxy)-10-(3,4,6-trideoxy-3-(dimethylamino)-5-D-xylohexapyranosyl)oxy)-(3a	205110-48-1 14176-10-4 83881-51-0	EP 929563	Macrolide antibiotic	Infection, respiratory tract, general
Cetiedil Cetirizine	S,4R,7R,9R,10R,11R,13R,15R,15aR)-[CAS]	83881-51-0 83881-52-1	EP 58146	Antiallergic, non-asthma	Allergy, general
ceftirizine	Acetic acid, [2-{4-[(4-chlorophenyl)phenylmethyl]-1-piperazinyl}ethoxy]-, [CAS]	83881-52-1 90-82-4 137-76-8 25394-78-9		Formulation, optimized, microencapsulate	Allergy, general
ceftirizine+pseudoephedrine	Acetic acid, [2-{4-[(4-chlorophenyl)phenylmethyl]-1-piperazinyl}ethoxy]-, dihydrochloride, Benzazepamethanol, Alpha-1-(methylamino)ethyl-, hydrochloride, [S-(R <sup>*</sup> R <sup>*</sup> )]-	27724-96-5 34875-84-8 57-09-0 120287-85-6 124-03-8	JP 48075547	Antiulcer	
Cetotiamine Cetoxime	Benzazepropanoic acid, 4-[[4-(aminomethyl)cyclohexyl]carbonyloxy]-, trans-[CAS]	123-03-5 107220-27-9 107233-08-9	EP 205247	Stomatological	Sjogren's syndrome
cestraxate Cetrimonium Cetorelix Cetyl dimethylethylamm onium Cetylpyridinium	Spiro[1-azabicyclo[2.2.2]octane-3,5'-[1,3]oxathiolane], 2'-methyl-, cis- [CAS]	29106-32-9 474-25-9		Anticancer, other	Cancer, general
cevimeline CG-1521 Chauimogric Acid Chenodiol	7-phenyl-2,4,6-heptatrienylhydroxamic acid				



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API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
CHF-3381			EP 951465	Analgesic, other	Pain, neuropathic
Chlophedianol		791-35-5			
Chloractzine		800-22-6			
		302-17-0			
chloral		2218-68-0			
Chlorambucil	1,1-Ethanediol, 2,2,2-trichloro- [CAS]	515-82-2		Formulation, transmucosal, systemic	Insomnia
Chloramine-B		305-03-3			
Chloramine-T		127-52-6			
Chloraminophenamide		127-65-1			
		121-30-2			
Chloramphenicol		56-75-7			
Chlorazaniil		500-42-5			
Chlorbenzoxamine		522-18-9			
Chlorbetamide		97-27-8			
Chlorcycizine		82-93-9			
Chlordantoin		5588-20-5			
Chlordiazepoxide		58-25-3			
Chlorguanide		500-92-5			
Chlorhexadol		3563-58-4			
chlorhexidine	2,4,11,13-Tetraazatetradecanedimidamide, N,N'-bis(4-chlorophenyl)-3,12-diamino- [CAS]	55-56-1		Formulation, other	Xerostomia, Periodontitis
Chlorfsondamine		69-27-2			
Chlormadinone		302-22-7			
Chlormerodrin		62-37-3			
Chlormezanone		80-77-3			
Chlormidazole		3689-76-7			
Chlornaphazine		494-03-1			
Chlorazodol		502-98-7			
Chlorophyll		1406-65-1			
Chloroprednisone		52080-57-6			
Chloroprocaine		3858-89-7			
Chloropyramine		59-32-5			

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API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
Chloroquine	2-Pyridinepropanamine, Gamma-(4-chlorophenyl)-N,N-dimethyl- [CAS]	54-05-7		Formulation, modified-release, other	Allergy, general
Chlorothen		148-65-2			
Chlorothiazide		58-94-6			
Chlorotrianisene		569-57-3			
Chloroxine		773-76-2			
Chloroxylenol		88-04-0			
Chlorozotocin		54749-90-5			
chlorphenamine		132-22-9			
Chlorphenesin		104-29-0			
Chlorpheniramine		886-74-8			
Chlorphenoxamide	4,4'-Sulfonyldianiline + 1-(3,4-Dichlorophenyl)5-isopropylbiguanide	132-22-9		Antimalarial	Infection, malaria
Chlorphenoxamine		3576-64-5			
Chlorpheniramine		77-38-3			
Chlorpheniramine		461-78-9			
Chlorpheniramine		84-01-5			
Chlorpheniramine		537-21-3			
Chlorpheniramine		537-21-3			
Chlorpheniramine		80-08-0			
Chlorpheniramine		50-53-3			
Chlorpheniramine		94-20-2			
Chlorpheniramine	4,4'-Sulfonyldianiline + 1-(3,4-Dichlorophenyl)5-isopropylbiguanide	113-59-7		Antimalarial	Infection, malaria
Chlorpheniramine		72-80-0			
Chlorpheniramine		57-62-5			
Chlorpheniramine		77-36-1			
Chlorpheniramine		132-89-8			
Chlorpheniramine		95-25-0			
Chlorpheniramine		81-25-4			
Chlorpheniramine		67-48-1			
Chlorpheniramine		2016-36-6			
Chlorpheniramine		28319-77-9			

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API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
choline theophyllinate	Ethanaminium, 2-hydroxy-N,N,N-trimethyl-, salt with 3,7-dihydro-1,3-dimethyl-1H-purine-2,6-dione (1:1) [CAS] Ethanaminium, 2-[(2,3-dihydroxypropoxy)hydroxyphosphinyloxy]-N,N,N-trimethyl-, hydroxide, inner salt, (R)- [CAS]	4499-40-5 26319-77-9 4940-39-0 804-10-4 532-82-1	JP 55028955	Formulation, modified-release, other Cognition enhancer	Amnesia
choline-L-ascorbate <b>Chromocarb</b> <b>Chromonar</b> <b>Chrysoidine</b>					
CHS-828	Guandine, N-[6-(4-chlorophenoxy)hexyl]-N'-cyano-N'-4-pyridinyl- [CAS] Glycine, N-[2-[5-(aminoininomethyl)-2-hydroxyphenoxy]-6-[3-(4,5-dihydro-1-methyl-1H-imidazol-2-yl)phenoxy]-3,5-difluoro-4-pyridinyl]-N-methyl- [CAS]	200484-11-3 183305-24-0	US 5696140 WO 9638421	Anticancer, other Antianginal	Cancer, general Angina, unstable
CI-1031					
CI-1040	Benzamide, 2-[(2-chloro-4-iodophenyl)amino]-N-(cyclopropylmethoxy)-3,4-difluoro- [CAS]	212631-79-3	WO 9837881	Anticancer, other	Cancer, general
cibenzoline	1H-imidazole, 2-(2,2-diphenylcyclopropyl)-4,5-dihydro- [CAS] Pregna-1,4-diene-3,20-dione 16,17-(((cyclohexylmethylene)bis(oxy))-11-hydroxy-21-(2-methyl-1-oxopropoxy) (11S,16Alpha) [CAS]	53267-01-9 126544-47-6	GB 1417174 DE 4129535	Antiarrhythmic Asthma	Arrhythmia, general Asthma
ciclesonide					
cicletanine	Furo[3,4-c]pyridin-7-ol, 3-(4-chlorophenyl)-1,3-dihydro-6-methyl-, (+)- [CAS] 3-Pyridinecarboxylic acid, 3,3,5-trimethylcyclohexyl ester, trans- [CAS]	82747-56-6 89943-82-8	US 4383998	Antihypertensive, other Vasodilator, peripheral	Cancer, lung, small cell Infection, fungal, general
ciclonicate	2(1H)-Pyridinone, 6-cyclohexyl-1-hydroxy-4-methyl-, [CAS]	53449-59-4 41621-49-2	DE 1910481		
ciclopirox <b>Ciclofidomine</b>		29342-05-0 66564-16-7	US 3883545	Antifungal	

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API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
ciclosporin A	Ciclosporin A- [CAS]	59865-13-3		Formulation, optimized, microemulsion	Transplant rejection, general
cidofovir	Phosphonic acid, [[2-(4-amino-2-oxo-1(2H)-pyrimidinyl)-1-(hydroxymethyl)ethoxy]methyl]-, (S)- [CAS]	113852-37-2 53267-01-9	EP 253412	Antiviral, other	Infection, cytomegalovirus
Cifenline	4H-Pyrido[3,2,1-k]carbazol-11(8H)-one, 5,6,9,10-tetrahydro-10-[(2-methyl-1H-imidazol-1-yl)methyl]-, (R)- [CAS]	120635-74-7 82009-34-5	EP 297651	GI inflammatory/bowel disorders	Irritable bowel syndrome
cilastatin	6H-Pyridazino[1,2-a][1,2diazepine-1-carboxylic acid, 9-[[1-(ethoxycarbonyl)-3-phenylpropyl]amino]octahydro-10-oxo-, [1S-(1Alpha,9Alpha(R*))]- [CAS]	88768-40-5 90139-06-3	GB 2128984	Antihypertensive, renin system	Hypertension, general
cilazapril	Cyclo(L-arginylglycyl-L-Alpha-aspartyl-D-phenylalanyl-N-methyl-L-valyl) [CAS]	188968-51-6	EP 770622	Anticancer, other	Cancer, lung, non-small cell
cilengitide	3,5-Pyridinedicarboxylic acid, 1,4-dihydro-2,6-dimethyl-4-(3-nitrophenyl)-, 2-methoxyethyl 3-phenyl-2-propenyl ester- [CAS]	102106-21-8 132203-70-4	EP 161877	Antihypertensive, other	Hypertension, general
cilnidipine	Cis-4-cyano-4-[3-(cyclopentyloxy)-4-methoxyphenyl]cyclohexane-1-carboxylic acid	153259-65-5	US 5602157	COPD treatment	Chronic obstructive pulmonary disease
cilomilast	2(1H)-Quinolone, 6-[4-(1-cyclohexyl-1H-tetrazol-5-yl)butoxy]-3,4-dihydro- [CAS]	73963-72-1 51481-61-9	GB 2033893	Antithrombotic	Peripheral vascular disease
ciclotazol	3-Oxa-9-azoniatricyclo[3.3.1.02,4]nonane, 9-(cyclopropylmethyl)-7-(3-hydroxy-1-oxo-2-phenylpropoxy)-9-methyl-, [7(S)-(1Alpha,2B,4B,5Alpha,7B)]- [CAS]	51598-60-8	US 3853886	Antispasmodic	Muscle spasm, general
cimetidine	1-naphthalenemethanamine, Alpha-methyl-N-[3-(trifluoromethyl)phenyl]propyl]-, (AlphaR)-	364782-34-3		Hormone	Hyperparathyroidism

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<u>Cinchonidine</u>	Piperazine, 1-[2-oxo-2-(1-pyrrolidinyl)ethyl]-4-[(1-oxo-3-(3,4,5-trimethoxyphenyl)-2-propenyl)-(Z)-2-butenediate (1:1) [CAS]	485-71-2	GB 1218591	Vasodilator, peripheral	Peripheral vascular disease
<u>Cinchonine</u>		118-10-5			
<u>Cinchophen</u>		132-60-5			
<u>Cinepazet</u>		23887-41-4			
<u>Cinepazide</u>		23887-46-9			
<u>Cinepazide</u>	1H-1,4-Benzodiazepine-1-propanenitrile, 7-chloro-5-(2-fluorophenyl)-2,3-dihydro-3-hydroxy-2-oxo- [CAS]	26328-04-1	DE 2950235	Hypnotic/Sedative	Insomnia
<u>Cinlapride</u>		66564-14-5			
<u>Cinmetacin</u>		20168-99-4			
<u>Cinnamedrine</u>		90-86-8			
<u>Cinnarizine</u>		298-57-7			
<u>Cinolazepam</u>	[1,3]Dioxole(4,5-g)cinnoline-3-carboxylic acid, 1-ethyl-1,4-dihydro-4-oxo-[CAS]	75696-02-5	GB 1296753	Quinolone antibacterial	Infection, urinary tract
<u>Cinoxacin</u>		28657-80-9			
<u>Cinoxate</u>		104-28-9			
<u>Cinromide</u>		58473-74-8			
<u>Cioteronel</u>		89672-11-7			
<u>Cipamfylline</u>	1H-Purine-2,6-dione, 8-amino-1,3-bis(cyclopropylmethyl)-3,7-dihydro- [CAS] 1H-imidazole, 4-[(1R,2R)-2-(5,5-dimethyl-1-hexynyl)cyclopropyl]- [CAS] Propanoic acid, 2-[4-(2,2-dichlorocyclopropyl)phenoxy]-2-methyl- [CAS] 3-Quinolonecarboxylic acid, 1-cyclopropyl-6-fluoro-1,4-dihydro-4-oxo-7-(1-piperazinyl)- [CAS]	132210-43-6	EP 389282	Anti-pruritic/inflamm. allergic Psychostimulant	Eczema, atopic Attention deficit disorder
<u>Cipralisant</u>		213027-19-1			
<u>Ciprofibrate</u>		52214-84-3			
<u>Ciprofloxacin</u>		85721-33-1			
<u>Ciprofloxacin</u>		85721-33-1	US 4670444	Quinolone antibacterial	Infection, general

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ciprofloxacin+flucinolone, SAL	3-Quinolincarboxylic acid, 1-cyclopropyl-6-fluoro-1,4-dihydro-4-oxo-7-(1-piperazinyl)- + (6Alpha, 11beta, 16Alpha)-6,9-Difluoro-11,21-dihydroxy-16,17-[(1-methylethylidene)bis-(oxy)]pregna-1,4-diene-3,20-dione	63269-31-8		Formulation, fixed-dose combinations	Otitis
Cirramadol	Benzamide, 4-amino-5-chloro-N-[1-[3-(4-fluorophenoxy)propyl]-3-methoxy-4-piperidinyl]-2-methoxy-, cis- [CAS]	81088-60-4	EP 76530	Gastroprokinetic	
cisapride	Isoquinolinium, 2,2'-[1,5-pentanediy]bis(oxy(3-oxo-3,1-propanediy)]bis[1-[(3,4-dimethoxyphenyl)methyl]-1,2,3,4-tetrahydro-6,7-dimethoxy-2-methyl-, [1R-[1Alpha,2Alpha(1'R,2'R)]]-, [CAS]	96948-42-8	US 5453510	Muscle relaxant	Surgery adjunct
cisatracurium	Platinum, diamminedichloro-, (SP-4-2)- [CAS]	15663-27-1	US 4177263	Anticancer, alkylating	
cisplatin	5-Isobenzofurancarboxonitrile, 1-[3-(dimethylamino)propyl]-1-(4-fluorophenyl)-1,3-dihydro-, [CAS]	59729-32-7 59729-33-8	GB 1526331	Antidepressant	Depression, general
citalopram	Cytidine 5-(trihydrogen diphosphate), P-[2-(trimethylammonio)ethyl]ester, hydroxide, inner salt [CAS]	987-78-0 1195-16-0 77-92-9 372-75-8	JP 39006541	Cognition enhancer	Infarction, cerebral
citicoline	Ethanamine, N,N-dimethyl-2-[(1-methyl-1H-pyrazol-5-yl)phenylmethoxy]-, 2-hydroxy-1,2,3-propanetricarboxylate [CAS]	142155-44-0		Urological	Incontinence
Citric Acid	4-(3-[4-(2-Methyl-imidazol-1-yl)-phenyl]sulfonyl)-phenyl-tetrahydro-pyran-4-carboxylic acid amide			COPD treatment	Chronic obstructive pulmonary disease
Citrulline					
cizolirine					
CJ-13610					

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CKD-602	1H-Pyranol[3',4':6,7]indolizino[1,2-b]quinoline-3,14(4H,12H)-dione, 4-ethyl-4-hydroxy-11-[(2-{(1-methylethyl)amino}ethyl)-monohydrochloride, (4S)- [CAS]	213819-48-8	WO 9902530	Anticancer, other	Cancer, ovarian
cladribine	Adenosine, 2-chloro-2'-deoxy- [CAS]	4291-63-8	EP 173059	Anticancer, antimetabolite	Cancer, leukaemia, hairy cell
Clanobutin		30544-61-7			
clarithromycin	Erythromycin, 6-O-methyl- [CAS]	81103-11-9	EP 41355	Macrolide antibiotic	Infection, respiratory tract, lower
Clavulanate, Disodium					
Clavulanic Acid		58001-44-8			
Clebopride		55905-53-8			
Clemastine		15686-51-8			
Clemizole		442-52-4			
Clenbuterol		37148-27-9			
Clenitazem		96125-53-0			
clevidipine	3,5-Pyridinedicarboxylic acid, 4-(2,3-dichlorophenyl)-1,4-dihydro-2,6-dimethyl-methyl (1-oxobutoxy)methyl ester (±) [CAS]	167221-71-8	WO 9512578	Antihypertensive, other	Hypertension, general
clevidine	2,4(1H,3H)-Pyrimidinedione, 1-(2-deoxy-2-fluoro-β-L-arabinofuranosyl)-5-methyl- [CAS]	163252-36-6		Antiviral, other	Infection, hepatitis-B virus
Clidanac		28968-07-2			
Clidinium		3485-62-9			
Clinafloxacin		105956-97-6			
Clindamycin		18323-44-9			
clindamycin + tretinoin	L-threo-Alpha-D-galacto-Octopyranoside, methyl 7-chloro-6,7,8-trideoxy-6-[(1-methyl-4-propyl-2-pyrrolidinyl)carbonylamino]-1-thio-, (2S-trans)- + retinoic acid			Formulation, fixed-dose combinations	Acne

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clindamycin	L-Threo-Alpha-D-galacto-octopyranoside, methyl 7-chloro-6,7,8-trideoxy-6-[[[(1-methyl-4-propyl-2-pyridylidene)carbonyl]amino]-1-thio-, 2-(dihydrogen phosphate)], (2S-trans)-	18323-44-9 24729-96-2 30299-08-2 88931-51-5		Formulation, parenteral, other	Infection, gynaecological
Clinofibrate Cinprost					
clobazam	1H-1,5-Benzodiazepine-2,4(3H,5H)-dione, 7-chloro-1-methyl-5-phenyl- [CAS]	22316-47-8 3611-72-1 29899-95-4 1159-93-9 13364-32-4 5627-46-3	GB 1214662	Anxiolytic	
Clobenfurol Clobencoside Clobenzepam Clobenzorex Clobenzotropine					
clobetasol	Pregna-1,4-diene-3,20-dione, 21-chloro-9-fluoro-11,17-dihydroxy-16-methyl-, (11S,16S)- [CAS] Pregna-1,4-diene-3,11,20-trione, 21-chloro-9-fluoro-16-methyl-17-(1-oxobutoxy)-, (16S)- [CAS]	25122-41-2 25122-57-0 54063-32-0 14860-49-2 47739-98-0 298-55-5 77175-51-0 4828-27-7	GB 1253831	Formulation, dermal, topical Antipruritic/inflam, allergic	Psoriasis
clobetasone Clobutinol Clocapramine Clocinazine Clocloazole Clocortolone					
clodronate	Phosphonic acid, (dichloromethylene)bis- [CAS]	22560-50-5 10596-23-3		Osteoporosis treatment, Anticancer, hormonal	Pain, cancer, Hypercalcaemia of malignancy
Clodronic Acid	2-chloro-9-(2-deoxy-2-fluoro-β-D-arabinofurasonyl)adenine			Anticancer, antimetabolite	Cancer, leukaemia, chronic lymphocytic
clofarabine					



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clofazimine	3-(p-chloroanilo)-10-(p-chlorophenyl)-2,10-dihydro-2-(isopropylimino)-phenazine	2030-63-9		Formulation, optimized, microencapsulate	Infection, tuberculosis
Clofenamide		671-95-4			
Clofibrate		637-07-0			
Clofibric Acid		882-09-7			
Cloflucarban		369-77-7			
Clofoctol		37693-01-9			
Cloforex		14261-75-7			
Clomacran		5310-55-4			
Clomestrone		4091-75-2			
Clometacin		25803-14-9			
Clomethiazole		533-45-9			
Clometocillin		1926-49-4			
Clomiphene		911-45-5			
Clomipramine		303-49-1			
Clomocycline		1181-54-0			
clonazepam	2H-1,4-Benzodiazepin-2-one, 5-(2-chlorophenyl)-1,3-dihydro-7-nitro- [CAS]	1622-61-3	US 4316897	Antiepileptic	Epilepsy, general
clonidine	1H-imidazol-2-amine, N-(2,6-dichlorophenyl)-4,5-dihydro- [CAS]	4205-90-7	US 4060084	Formulation, transdermal, patch	Hypertension, general
Clonitazene		3861-76-5			
Clonitrate		2612-33-1			
Clonixin		17737-65-4			
Cloпамide		636-54-4			
Clopenthixol		982-24-1			
Cloperastine		3703-76-2			
	Thieno[3,2-c]pyridine-5(4H)-acetic acid, Alpha-(2-chlorophenyl)-6,7-dihydro-, methyl ester, (S)- [CAS]	120202-48-4			
		90055-48-4			
		113665-84-2	EP 99802	Antithrombotic	Infarction, myocardial
		42779-82-8			
clonidogrel		5251-34-3			
Clopirac		39563-28-5			
Cloprednol	2-Propanol, 1-(2,5-dichlorophenoxy)-3-[[[1,1-dimethylethyl]amino]- [CAS]	54247-25-5	US 4310549	Antihypertensive, adrenergic	
cloranolol					

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Clorazepic Acid	Acetic acid, [(8-chloro-3-[(2-(diethylamino)ethyl)-4-methyl-2-oxo-2H-1-benzopyran-7-yl]oxy)-ethyl ester [CAS]	23887-31-2 2127-1-7	US 4349566	Vasodilator, coronary	Peripheral vascular disease
cloricromene		68206-94-0			
Clorindione		1146-99-2			
Clorprenaline		3811-25-4			
Clortermine		10389-73-8			
Clospirazine		24527-27-3			
Clostabol		1093-58-9			
Clothiapine		2058-52-8			
clotiazepam	2H-Thieno[2,3-e]-1,4-diazepin-2-one, 5-(2-chlorophenyl)-7-ethyl-1,3-dihydro-1-methyl- [CAS]	33671-46-4	US 3849405	Anxiolytic	Anxiety, general
clotrimazole	1-[(2-chlorophenyl)diphenylmethyl]-1H-imidazole	23593-75-1	US 3705172	Antifungal	
clotrimazole + betamethasone	Pregna-1,4-diene-3,20-dione, 9-fluoro-11-hydroxy-16-methyl-17,21-bis(1-oxopropoxy)-, (11S,16S)-, mixt. with 1-[(2-chlorophenyl)diphenylmethyl]-1H-imidazole [CAS]	92522-91-3 61-72-3		Formulation, fixed-dose combinations	Infection, fungal, general
Cloxacillin	Oxazolo[3,2-d][1,4]benzodiazepin-8(5H)-one, 10-chloro-11b-(2-chlorophenyl)-2,3,7,11b-tetrahydro- [CAS]	24166-13-0 53608-96-1 130-16-5	US 3772371	Anxiolytic	
cloxazolam	5H-Dibenzo[b,e][1,4]diazepine, 8-chloro-11-(4-methyl-1-piperazinyl)- [CAS]	5786-21-0	US 3539573	Neuroleptic	Schizophrenia
Cloxotestosterone	Trans-2-[3-methoxy-4-(2-p-chlorophenylthio)ethoxy-5-(N-methyl-N'-hydroxyureidyl)methylphenyl]-5-(3,4,5-trimethoxyphenyl)tetrahydrofuran				
Cloxyquin					
clzapine					
CML-392		193739-23-0	US 5648486	Antipsoriasis	Psoriasis

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CMT-3	2-Naphthacene-carboxamide, 1,4,4a,5,5a,6,11,12a-octahydro-3,10,12,12a-tetrahydroxy-1,11-dioxo-, (4aS,5aR,12aS)- [CAS]	15866-90-7	US 5837696	Anticancer, other	Cancer, sarcoma, Kaposi's
CNI-1493	Decanediamide, N,N'-bis[3,5-bis[(1-[(aminiminomethyl)hydrazono]ethyl]phenyl]-tetrahydrochloride [CAS]	164301-51-3	US 5750573	Anti-inflammatory	Psoriasis
CNS-5161	N-[2-chloro-5-(methylthio)phenyl]-N-methyl-N-[3-(methylthio)phenyl]guanidine [CAS]	160754-76-7	WO 9427591	Analgesic, other	Pain, neuropathic
Cobamamide	5,10 methylene - tetrahydrofolate	13870-90-1			
Cocacethylene		529-38-4			
Cocaine		50-36-2			
Codeine		76-57-3			
		52-28-8			
CoFactor		64-86-8		Anticancer, antimetabolite	Cancer, colorectal
Colchicine	1-Hexanaminium, N,N,N-trimethyl-6-(2-propenylamino)-, polymer with (chloromethyl)oxirane, 2-propen-1-amine and N-2-propenyl-1-decanamine, hydrochloride [CAS]	182815-44-7	US 5607669	Hypolipemic/Antiatherosclerosis	Hyperlipidaemia, general
colesevelam	1H-Imidazole, 2-methyl-, polymer with (chloromethyl)oxirane [CAS]	95522-45-5	JP 59155421	Hypolipemic/Antiatherosclerosis	Hypercholesterolaemia
colestilan	6-(3-dimethylaminopropionyl)forskolin- [CAS]	26658-42-4			
Colestipol	3,5,9-Trioxa-4-phosphapentacosan-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[(1-oxohexadecyloxy)-, hydroxide, inner salt, 4-oxide, (R)- [CAS]	138605-00-2	EP 222413	Cardio stimulant	Heart failure
colforsin daropate		63-89-8			
colfosceril		99732-49-7			
Collagraft		138331-02-9			
Colocynthin		1398-78-3	US 4826821	Lung Surfactant Formulation, implant	Respiratory distress syndrome, infant
Colpormon		1247-71-8			Regeneration, bone

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coluracetam	1-Pyrrolidineacetamide, 2-oxo-N-(5,6,7,8-tetrahydro-2,3-dimethylfuro[2,3-b]quinolin-4-yl)- [CAS]	135463-81-9	EP 427636	Cognition enhancer	Alzheimer's disease
combrelistatin A-4 prodrug compound B, Pharmacor	disodium combretastatin-A-4-3-O-phosphate				
convaptin	[1,1'-Biphenyl]-2-carboxamide, N-[4-[(4,5-dihydro-2-methylimidazo[4,5-c][1,1'-benzazepin-6(1H)-yl)carbonyl]phenyl]-, [CAS]	168626-94-6	US 6362165	Anticancer, other Antiviral, anti-HIV	Cancer, thyroid Infection, HIV/AIDS
Connettina	hyaluronic acid [CAS]	9004-61-9	WO 9503305	GI inflammatory/bowel disorders Vulnery	Hyponatraemia
<b>Convallatoxin</b>		508-75-8			
<b>Coparaffinate</b>		8001-60-3			
<i>Corticorelin</i> <i>Ovine</i>					
<i>Triflutate</i>					
<b>Corticosterone</b>		50-22-6			
<b>Cortisone</b>		53-06-5			
<b>Cortivazol</b>		1110-40-3			
<b>Cosyntropin</b>		16960-16-0			
<b>Cotamine</b>		82-54-2			
<b>Cotinine</b>		486-56-6			
co-trimazine	Benzanesulfonamide, 4-amino-N-2-pyrimidinyl-, mixt. with 5-[(3,4,5-trimethoxyphenyl)methyl]-2,4-pyrimidinediamine [CAS]	39474-58-3		Trimethoprim and analogues	Infection, urinary tract
<b>Coumetarol</b>		4366-18-1			
CP-248	1H-Indene-3-acetamide, 5-fluoro-2-methyl-N-(phenylmethyl)-1-[(3,4,5-trimethoxyphenyl)methyl]-, (1Z)- [CAS]	200803-37-8	WO 9747303	Anticancer, other	Barrett's oesophagus
CP-461			US 5948779	Anticancer, other	Cancer, prostate
CPC-211	Acetic acid, dichloro-, sodium salt [CAS]	2156-56-1	WO 9631462	Neuroprotective	Acidosis, lactic
CPL-1189	CPI 1189 [CAS]	210475-67-5	WO 0202549	Cognition enhancer	Dementia, AIDS-related
CRA-0450				Anxiolytic	Unspecified

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creatine-O-phosphate	Guanidine, N-methyl-N-[2-(phosphonoxy)ethyl]- [CAS]	6903-79-3		Antianginal	
CRL-5861	Oxirane, methyl-, polymer with oxirane, block [CAS]	106392-12-5	US 4837014	Antisticking	Anaemia, sickle cell
crobenazine	(2R,6S)-3-[2(S)-Benzyloxypropyl]-6,11,11-trimethyl-1,2,3,4,5,6-hexahydro-2,6-methano-3-benzazocin-10-ol		WO 9914199	Neuroprotective	Ischaemia, cerebral
croconazole	1H-Imidazole, 1-[1-[2-(3-chlorophenyl)methoxy]phenyl]ethenyl]- [CAS]	77175-51-0	DE 3021467	Antifungal	Infection, fungal, general
crotonoglicic acid	4H-1-Benzopyran-2-carboxylic acid, 5,5'-[[2-hydroxy-1,3-propanediyl]bis(oxy)]bis-4-oxo- [CAS]	53736-52-0		Formulation, mucosal, topical	Conjunctivitis
crotonolyn	4H-1-Benzopyran-2-carboxylic acid, 5,5'-[[2-hydroxy-1,3-propanediyl]bis(oxy)]bis[4-oxo-, [CAS]	15826-37-6 16110-51-3		Formulation, inhalable, solution	Asthma
Cropropamide		633-47-6			
Crotamiton		483-63-6			
Crotethamide		6168-76-9			
Crystacide			US 4557935	Formulation, dermal, topical	Infection, dermatological
CS-502			EP 799823	Analgesic, other	Pain, general
CS-758	4-[(1E,3E)-4-(trans-5-[[1R,2R)-2-(2,4-difluorophenyl)-2-hydroxy-1-methyl-3-(1H-1,2,4-triazol-1-yl)propyl]thio]-1,3-dioxan-2-yl]-1,3-butadienyl-3-fluorobenzenitrile			Antifungal	Infection, fungal, general
CS-834	1-Azabicyclo[3.2.0]hept-2-ene-2-carboxylic acid, 6-[(1R)-1-hydroxyethyl]-4-methyl-7-oxo-3-[[3(R)-5-oxo-3-pyrrolidinylthio]-, (2,2-dimethyl-1-oxopropoxy)methyl ester, (4R,5S,6S)- [CAS]	157542-49-9	EP 599512	Beta-lactam antibiotic	Infection, general

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CT-052923	[[2H-benzo[d][1,3-dioxalan-5-methylamino][4-(6,7-dimethoxyquinazolin-4-yl)piperazinyl]methane-1-thione			Cardiovascular	Restenosis
CT-32228	N-(4-bromophenyl)-6-(5-chloro-2-methylphenyl)-1,3,5-triazine-2,4-diamine	866-82-0 13007-93-7		Anticancer, other	Cancer, general
CVT-2594	Ethanol, 2,2'-[[6-[(4-methoxyphenyl)methyl]amino]-9-(1-methylethyl)-9H-purin-2-yl]imino]bis-[CAS] [[S]-6-amino-5-(6-hydroxy-2,5,7,8-tetramethylchroman-2-carboxamido)-3-methyl-1-phenyl-2,4-(1H,3H)-pyrimidinedione	199986-75-9	WO 9805335	Cardiovascular	Restenosis
CX-659S					
Cycetacide		140-87-4			
Cyamemazine		3546-03-0			
Cyanidin		528-58-5		Dermatological	Eczema, general
CYC400			WO 00172745	Anticancer, other	Cancer, general
Cyclacillin		3485-14-1			
Cyclandelate		456-59-7			
Cyclazocine		3572-80-3			
Cycloxanone		15301-52-7			
Cyclexedrine		532-52-5			
cyclidrol	3-Cyclohexene-1-methanol, 5-hydroxy-				
cyclin D1 inhibitors	Alpha,Alpha,4-trimethyl- [CAS]	498-71-5	US 6033843	COPD treatment, Respiratory	Bronchitis, chronic
Cyclizine		82-92-8		Anticancer, hormonal	Cancer, breast
Cyclobarbital		52-31-3			
Cyclobendazole		31431-43-3			

Table IV

API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
cyclobenzaprine	1-Propanamine, 3-(5H-dibenzo[a,d]cycloheptan-5-ylidene)-N,N-dimethyl- [CAS]	303-53-7		Formulation, modified-release, other	Muscle spasm, general
Cyclobutylol		512-16-3			
Cyclocumarol		518-20-7			
Cyclodrine		52109-93-0			
Cyclofenil		2624-43-3			
Cycloquanil		516-21-2			
Cyclomethycaine		139-62-8			
Cyclonium iodide		6577-41-9			
Cyclopentamine		102-45-4			
Cyclopenthlazide		742-20-1			
Cyclopentobarbital		76-68-6			
Cyclopentolate		512-15-2			
	N,N-Bis(2-chloroethyl)tetrahydro-2H-1,3,2-oxazaphosphorin-2-amine-2-oxide monohydrate				
cyclophosphamide		50-18-0		Formulation, parenteral, targeted	Cancer, general
		6055-19-2			
	2(1H)-Pyridinone, 6-cyclohexyl-1-hydroxy-4-methyl-, compd with 2-aminoethanol(1:1) [CAS]	41621-49-2			
cyclopiroxalamine		68-41-7		Formulation, transdermal, other	Vaginitis
Cycloserine		2259-96-3			
Cyclothiazide		579-23-7			
Cyclovalone		508-77-0			
Cymarlin					
	Carbonic acid, [4-(1-methylethyl)phenyl]-, (3aS,8aR)-1,2,3,3a,8,8a-hexahydro-1,3a,8-trimethylpymolo[2,3-b]indol-5-yl ester [CAS]				
cymserine		145209-39-8	WO 9902154	Cognition enhancer	Alzheimer's disease
Cynarin(e)		30964-13-7	US 6063606	Dermatological	Unspecified
CYP26 inhibitors					
Cyproheptadine		129-03-3			
	(1R,2R)-6-Chloro-1,2-dihydro-17-hydroxy-3H-cyclopropa[1,2]pregna-1,4,6-triene-3,20-dione [CAS]			Radio/chemoprotective	Chemotherapy-induced injury, general
cyprotarone		2098-66-0			

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API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
Cysteamine		60-23-1			
cystic fibrosis ther	[[4-[3-[[4-[1-(4-hydroxyphenyl)-1-methyl-ethyl]phenoxy]methyl]phenyl]methoxy]phenyl]aminomethyl]-, ethyl ester			Cystic fibrosis treatment	Cystic fibrosis
cytarabine	2(1H)-Pyrimidinone, 4-amino-1-[5-O-(hydroxy(octadecyloxy)phosphinyl]-β-D-arabinofuranosyl]-, [CAS]	65083-40-5 147-94-4	EP 239015	Anticancer, antimetabolite	Myelodysplastic syndrome
D-24851	N-(Pyridin-4-yl)-(1-(4-chlorobenzyl)-indol-3-yl)-glyoxyl-amide			Anticancer, other	Cancer, general
D-4418	8-Methoxyquinoline-5-[N-(2,5-dichloropyridin-3-yl)]carboxamide			Antiasthma	Asthma
DA-5018	Benzeneacetamide, 4-(2-aminoethoxy)-N-(3-(3,4-dimethylphenyl)propyl)-3-methoxy-mono-hydrochloride [CAS]	174661-97-3	US 5242944	Analgesic, other	Pain, musculoskeletal
DA-6034			US 6025387	GI inflammatory/bowel disorders	Crohn's disease
DA-7867			KR 9957803	Antibacterial, other	Infection, general
DA-7911			KR 56034	Antiarthritic, other	Arthritis, rheumatoid
DA-8159	3-(1-Methyl-7-oxo-3-propyl-6,7-dihydro-1H-pyrazolo-[4,3-d]pyrimidin-5-yl)-N-[2-(1-methylpyrrolidin-2-yl)ethyl]-4-propoxybenzenesulfonamide				
Dacarbazine		4342-3-4	KR 353014	Male sexual dysfunction	Sexual dysfunction, male, general
Dacizumab		152923-56-3			
Dactinomycin		50-76-0			
daibavancin	5,31-Dichloro-38-de(methoxycarbonyl)-7-demethyl-19-deoxy-56-O-[2-deoxy-2-(10-methylundecanamido)-β-D-glucopyranuronyl]-38-[N-[3-(dimethylamino)propyl]carbamoyl]-42-O-Alpha-D-mannopyranosyl-N15-methylristomycin A aglycone	171500-79-1		Peptide antibiotic	Infection, dermatological



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<b>Dalfopristin</b>	Virginiamycin M1, 26-(2-(diethylamino)ethyl)sulfonyl)-26,27-dihydro-(26R,27S)-, mixt with 4-(4-(dimethylamino)-N-methyl-L-phenylalanine)-5-(5-(1-azabicyclo(2.2.2)oct-3-ylthio)methyl)-4-oxo-L-2-piperidinecarboxylic acid	112362-50-2			
dalfopristin + quinupristin	virginiamycin S1- [CAS]	126602-89-9	EP 248703	Antibiotic, other	Infection, respiratory tract, general
dalteparin	Heparin, [CAS]	9041-08-1	US 4303651	Anticoagulant	Thromboprophylaxis
<b>Daltroban</b>		79094-20-5			
<b><math>\delta</math>-Aminolevulinic Acid</b>		106-60-5	EP 66908	Anticoagulant	Thrombosis, venous
danaparoid					
danazol	Pregna-2,4-dien-20-yno[2,3-d]isoxazol-17-ol, (17Alpha)- [CAS]	17230-88-5	GB 905844	Menstruation disorders	
<b>Danthron</b>		117-10-2			
<b>Dantrolene</b>		7261-97-4			
dapiprazole	1,2,4-Triazolo(4,3-e)pyridine, 5,6,7,8-tetrahydro-3-[2-{4-(2-methylphenyl)-1-piperazinyl}ethyl]- [CAS]	72822-12-9	US 4252721	Ophthalmological	Glaucoma
	4-[4-(2,4,6-trimethylphenyl)amino]pyrimidin-2-ylamino]benzonitrile	72822-13-0			
dapivirine	(+)-(S)-N,N-dimethyl-Alpha-[2-(1-naphthyl-oxyl)ethyl]benzylamine HCl	244767-67-7		Antiviral, anti-HIV	Infection, HIV/AIDS
dapoxetine	4,4'-Sulfonyldianiline	119356-77-3	EP 288188	Male sexual dysfunction	Premature ejaculation
dapsone		80-08-0			Acne
daptomycin	Daptomycin [CAS]	103060-53-3	EP 178152	Formulation, dermal, topical Peptide antibiotic	Infection, dermatological
<b>Darbepoetin Alfa</b>					
	3-Pyrrolidineacetamide, 1-[2-(2,3-dihydro-5-benzofuranylethyl)-Alpha,Alpha-diphenyl-, (S)- [CAS]				
darifenacin		133099-04-4	EP 388054	Urological	Overactive bladder

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daunorubicin	5,12-Naphthacenedione, 8-acetyl-10-[(3-amino-2,3,6-trideoxy-Alpha-L-xylohexopyranosyl)oxy]-7,8,9,10-tetrahydro-6,8,11-trihydroxy-1-methoxy-, (8S-cis)- [CAS]	20830-81-3	US 5441745	Formulation, optimized, liposomes	Cancer, sarcoma, Kaposi's
DAX, ScClone	3-diallyl-8-cyclohexyxanthine			Cystic fibrosis treatment	Cystic fibrosis
DB-67	7-tert-Butyldimethylsilyl-10-hydroxycamptothecin			Anticancer, other	Cancer, general
d-Camphocarboxylic Acid		18530-30-8			
DCF-987	Dextran		US 5514665	Formulation, other	Cystic fibrosis
DDT		50-29-3			
Deaminooxytocin		113-78-0			
Deanol		108-01-0			
Debrisoquin		1131-64-2			
Decamethonium		541-22-0			
Declinamide		14817-09-5			
declabine	1,3,5-Triazin-2(1H)-one, 4-amino-1-(2-deoxy-β-D-erythro-pentofuranosyl)-[CAS]	23339-46-0		Anticancer, antimetabolite	Myelodysplastic syndrome
declopramide	Benzamide, 4-amino-3-chloro-N-(2-(diethylamino)ethyl)- [CAS]	2353-33-5			
Deferiprone		891-60-1	WO 9732582	Anticancer, other	Cancer, colorectal
Deferoxamine		30652-11-0			
		70-51-9			
deflazacort	5H-Pregna-1,4-diene[17,16-dioxazole-3,20-dione, 21-(acetyloxy)-11-hydroxy-2-methyl-, (11β,16β)- [CAS]	14484-47-0			
Defosfamide		74712-90-8	GB 1077393	Hormone	Asthma
		3733-81-1			

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API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
degarelix	N-acetyl-3-(naphthalen-2-yl)-D-alanyl-4-chloro-D-phenylalanyl-3-(pyridin-3-yl)-D-alanyl-L-seryl-4-[[[(4S)-2,6-dioxohexahydropyrimidin-4-yl]carbonyl]amino]-L-phenylalanyl-4-(carbamoylamino)-D-phenylalanyl-L-leucyl-N6-(1-methylethyl)-L-lysyl-L-prolyl-D-alaninamide	214766-78-6		Anticancer, hormonal	Cancer, prostate
dehydroascorbic acid	L-threo-2,3-Hexodiolulosonic acid gamma-lactone	490-83-5		Cognition enhancer	Alzheimer's disease
Dehydrocholic Acid		81-23-2			
Dehydroemetine		4914-30-1			
delapril	Glycine, N-(2,3-dihydro-1H-inden-2-yl)-N-[N-(1-(ethoxycarbonyl)-3-phenylpropyl)-L-alanyl]-, (S)- [CAS]	83435-66-9 83435-67-0	EP 51391	Antihypertensive, renin system	Hypertension, general
delapril-mandipine	Glycine, N-(2,3-dihydro-1H-inden-2-yl)-N-[N-(1-(ethoxycarbonyl)-3-phenylpropyl)-L-alanyl]-, (S)-3,5-Pyridinedicarboxylic acid, 1,4-dihydro-2,6-dimethyl-4-(3-nitrophenyl)-, 2-[4-(diphenylmethyl)-1-piperazinyl]ethyl methyl ester [CAS]		FR 2733911	Formulation, fixed-dose combinations	Hypertension, general
delavirdine	Piperazine, 1-[3-[(1-methylethyl)amino]-2-pyridinyl]-4-[[5-[(methylsulfonyl)amino]-1H-indol-2-yl]carbonyl]- [CAS]	136817-59-9 13698-49-2 79874-76-3	WO 9109849	Antiviral, anti-HIV	Infection, HIV/AIDS
Delmadinone					
Delmopinol					
delorazepam	2H-1,4-Benzodiazepin-2-one, 7-chloro-5-(2-chlorophenyl)-1,3-dihydro- [CAS]	2894-67-9	CH 408029	Anxiolytic	
delucemine	3,3-Bis-(m-fluorophenyl)-N-methylpropylamine [CAS]	186495-99-8 6909-62-2 56-94-0		Neuroprotective	Ischaemia, cerebral
Demanyl					
Demecarium					

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demeclocycline	2-Naphthacene-carboxamide, 7-chloro-4-(dimethylamino)-1,4,4a,5,5a,6,11,12a-octahydro-3,6,10,12,12a-pentahydroxy-1,11-dioxo-, [4S- (4 $\alpha$ ,4a $\alpha$ ,5 $\alpha$ ,6 $\alpha$ ,12a $\alpha$ )]- [CAS]	127-33-3 477-30-5 10116-22-0 24701-51-7		Formulation, modified-release, <=24hr	Infection, general
Demecolcine					
Demegestone					
Demexiptiline					
denaverine	Benzeneacetic acid, Alpha-(2-ethylbutoxy) Alpha-phenyl-, 2-(dimethylamino)ethyl ester, [CAS]	3321-06-0 173146-27-5 71771-90-9	DE 4133785	Analgesic, NSAID	Pain, musculoskeletal
Denileukin Diffitox					
Denopamine					
Denopterlin		22006-84-4 83-44-3 64-85-7			
Deoxycholic Acid					
Deoxycorticosterone		56-47-3 26086-49-7			
Deoxydihydrostreptomycin					
Deoxyepinephrine		501-15-5 161982-62-3			
Depreotide	L-Valine, N-[(3S,4E)-3-hydroxy-7-mercapto-1-oxo-4-heptanyl]-D-valyl-D-cysteiny-(2Z)-2-amino-2-butenoyl-, (4-1)-lactone, cyclic (1-2)-disulfide [CAS]				
desipeptide		128517-07-7 604-51-3 522-51-0	EP 352646	Anticancer, antibiotic	Cancer, general
Deptropine					
Dequalinium					
densalazine	Benzic acid, 2-hydroxy-5-[[4-[3-(4-(2-methyl-1H-imidazo[4,5-c]pyridin-1-yl)methyl]-1-piperidinyl]-3-oxo-1-phenyl-1-propenyl]phenyl]azo] (Z) [CAS]	188913-57-7 188913-59-8 131-01-1	US 5747477	Anti-inflammatory	Colitis, ulcerative
Deserpidine					

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desferrioxamine	Butanediamide, N'-[5-[[4-[(5-dioxobutyl)hydroxyamino]pentyl]-N-(5-aminopentyl)-N-hydroxy- [CAS]	70-51-9		Antidote	Poisoning, metal
<b>Desflurane</b>		57041-67-5			
<b>Desipramine</b>		50-47-5			
<b>Deslanoside</b>		17598-65-1			
desloratadine	5H-Benzo(5,6)cyclohepta(1,2-b)pyridine, 8-chloro-6,11-dihydro-11-(4-piperidinylidene)- [CAS]	100643-71-8	US 5595997	Antiallergic, non-asthma	Rhinitis, allergic, perennial
deslorelin	Luteinizing hormone-releasing factor (pigeon), 6-D-tryptophan-9-(N-ethyl-L-prolinamide)-10-deglycinamide- [CAS]	57773-65-6	US 4034082	Releasing hormones	Cancer, prostate
desmopressin	Vasopressin, 1-(3-mercaptopropionic acid)-8-D-arginine- [CAS]	16679-58-6	DE 2948345	Hormone	Enuresis
<b>Desogestrel</b>		54024-22-5			
desogestrel + estradiol	Estra-1,3,5(10)-triene-3,17-diol (17 $\beta$ ), mixt. with (17 $\alpha$ )-13-ethyl-11-methylene-18,19-dinorpregn-4-en-20-yn-17-ol [CAS]	122364-17-4		Menopausal disorders	Hormone replacement therapy
desogestrel, Akzo Nobel	18,19-Dinorpregn-4-en-20-yn-17-ol, 13-ethyl-11-methylene-, (17 $\alpha$ )- [CAS]	54024-55-5		Formulation, oral, other	Contraceptive, female
desogestrel+ethinylestrad (1)	18,19-Dinorpregn-4-en-20-yn-17-ol, 13-ethyl-11-methylene-, (17 $\alpha$ )- [CAS]	54024-22-5		Formulation, oral, other	Contraceptive, female
<b>Desomorphine</b>		71138-35-7	US 3927046		
<b>Desonide</b>		427-00-9			
<b>Desoximetasone</b>		638-94-8			
<b>Detaxtran</b>		382-67-2			
Devacade		9015-73-0			
dexamethasone	Pregna-1,4-diene-3,20-dione, 9-fluoro-11,17,21-trihydroxy-16-methyl-, (11 $\beta$ ,16 $\alpha$ )- [CAS]	50-02-2	WO 9308176	Analgesic, other	Pain, general
		2392-39-4			
		312-93-6		Formulation, other	Inflammation, ocular
dexanabinol	6H-Dibenzo[b,d]pyran-9-methanol, 3-(1,1-dimethylheptyl)-6a,7,10,10a-tetrahydro-1-hydroxy-6,8-dimethyl-, (6aS-trans)- [CAS]	112924-45-5	EP 427518	Neuroprotective	Head trauma

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dexcedol	Glycine, N-[2-[(acetylthio)methyl]-1-oxo-3-phenylpropyl]-, phenylmethyl ester, (R)- [CAS]	112573-72-5	EP 318377	Alimentary/Metabolic, other	Unspecified
dexafaroxan	1H-Imidazole, 2-(2-ethyl-2,3-dihydro-2-benzofuran-4,5-dihydro- [CAS]	89197-00-2 89197-32-0	EP 71368	Cognition enhancer	Alzheimer's disease
<b>Dextetamide</b>	Benzeneacetic acid, Alpha-methyl-4-(2-methylpropyl)-, (AlphaS)- [CAS]	21688-98-2			
dextropropfen	Benzeneacetic acid, 3-benzoyl-Alpha-methyl-, (S)- [CAS]	51146-56-6		Analgesic, NSAID	Pain, general
dextropropfen	Pentanoic acid, 4-(3,4-dichlorobenzoyl)amino)-5-[(3-methoxypropyl)pentylamino)-5-oxo-, (R)- [CAS]	22161-81-5		Anti-inflammatory	Inflammation, general
dextroglumide	1H-Imidazole, 4-[1-(2,3-dimethylphenyl)ethyl]-, (R)- [CAS]	119817-90-2	EP 0344184	GI inflammatory/bowel disorders	Irritable bowel syndrome
dexmedetomidine	2-Piperidineacetic acid, Alpha-phenyl-, methyl ester, (AlphaR,2R)-	11375-47-6 86347-15-1	EP 187471	Hypnotic/Sedative	Anaesthesia
dexmethylphenidate		19262-88-1		Psychostimulant	Attention deficit disorder
<b>Dexpanthenol</b>		81-13-0			
dexrazoxane	2,6-Piperazinedione, 4,4'-(1-methyl-1,2-ethanediyl)bis-, (S)- [CAS]	24584-09-6	DE 1910283	Radio/chemoprotective	Chemotherapy-induced injury, general
Dextran-1	Dextran [CAS]	9004-54-0		Plasma substitute	
<b>Dextranomer</b>		56087-11-7			
<b>Dextroamphetamine</b>		51-64-9			
dextromethorphan	Morphinan, 3-methoxy-17-methyl-, (9Alpha,13Alpha,14Alpha)-	6700-34-1	US 4221788	Formulation, oral, other	Cough, Emotional lability
<b>Dextromoramide</b>		125-71-3 357-56-2			
dextropropoxyphene	Benzeneethanol, Alpha-[2-(dimethylamino)-1-methyl-ethyl]-Alpha-phenyl-, propanoate (ester), [S-(R' S')]- [CAS]	469-62-5 53648-55-8		Formulation, modified-release, other	Pain, general
<b>Dezocine</b>					
DF-1012	N-Tropyl 7-azaindol-3-ylcarboxamide	163220-65-3	WO 9504742	Respiratory	Respiratory disease, general
DFA-IV	di-D-fructofuranose 2,6':6,2' dianhydride		US 5700832	Antianemic	Anaemia, aplastic

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API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
d-Fenchone		4695-62-9			
D-Glucuronolactone	Diab II	32449-92-6			
Diab II		309956-85-2	US 6153632	Antidiabetic	Diabetes, Type II
diacerein	2-Anthracenecarboxylic acid, 4,5-bis(acetyloxy)-9,10-dihydro-9,10-dioxo- [CAS]	13739-02-1			
Diampromide		552-25-0			
Diamthazole		136-96-9	US 4244968	Antiarthritic, other	Arthritis, rheumatoid
Dialthymosulfone		5964-62-5			
Diatrizoate		737-31-5			
diazepam	2H-1,4-Benzodiazepin-2-one, 7-chloro-1,3-dihydro-1-methyl-5-phenyl- [CAS]	439-14-5		Formulation, transmucosal, systemic	Anxiety, epilepsy, general
Diaziquone		57998-68-2			
Diazoxide		364-98-7			
dibekacin	D-Streptamine, O-3-amino-3-deoxy-Alpha-D-glucopyranosyl-(1-6)-O-[2,6-diamino-2,3,4,6-tetraideoxy-Alpha-D-erythrohexopyranosyl-(1-4)]-2-deoxy-, sulfate (salt) [CAS]	34493-98-6	GB 1348302	Aminoglycoside antibiotic	Infection, general
Dibenzepin		58580-55-5			
Dibromopropamidine		4498-32-2			
Dibucaine		496-00-4			
Dichloralphenazone		61-12-1			
Dichloramine T		480-30-8			
Dichlorazone		473-34-7			
Dichlorobenzyl Alcohol		7008-26-6			
		1777-82-8			
Dichlorophen		97-23-4			
Dichlorophenarsine		536-29-8			
Dichlorophenamide		120-97-8			
diclofenac + HA	Hyaluronic acid + benzenesulfonic acid, 2-[(2,6-dichlorophenyl)amino]- [CAS]	15307-79-6		Formulation, transdermal, systemic	Keratosis
diclofenac	Benzenesulfonic acid, 2-[(2,6-dichlorophenyl)amino]-, [CAS]	15307-86-5			
		15307-81-0		Formulation, modified-release, <=24hr	Pain, general

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API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
Dicloxacillin		3116-76-5			
Dicumarol		66-76-2			
Dicyclomine		77-19-0			
didanosine	Inosine, 2',3'-dideoxy- [CAS]	69655-05-6	US 4861759	Antiviral, anti-HIV	Infection, HIV/AIDS
Dideoxyadenosine		4097-22-7			
didox	Benzamide, N,3,4-trihydroxy- [CAS]	69639-83-4	US 4263322	Anticancer, antimetabolite	Cancer, general
Dienestrol		84-17-3			
dienogest	19-Norpregna-4,9-diene-21-nitrile, 17-hydroxy-3-oxo-, (17Alpha)- [CAS]	65928-58-7	GB 1524917	Menstruation disorders	Endometriosis
dienogest+estradiol	19-Norpregna-4,9-diene-21-nitrile, 17-hydroxy-3-oxo-, (17Alpha)- [CAS]				
Diethadione	19-Norpregna-4,9-diene-21-nitrile, 17-hydroxy-3-oxo-, (17Alpha) + Estradiol (17B)				
Diethazine		702-54-5			
Diethylbromoacetamide		60-91-3			
		511-70-6			
Diethylcarbamazine		90-89-1			
diethylpropion	1-Propanone, 2-(diethylamino)-1-phenyl- [CAS]	90-84-6		Formulation, modified-release, <=24hr	Obesity
Diethylstilbestrol		56-53-1			
Difemerline		80387-96-8			
Difenamizole		20170-20-1			
Difenoxin		28782-42-5			
Difenpiramide		51484-40-3			
diflunetran	(5R)-5-Ethyl-9,10-difluoro-1,4,5,13-tetrahydro-5-hydroxy-3H,15H-oxepino[3',4':6-indolizino[1,2-b]quinoline-3,15-dione	220897-97-7		Anticancer, other	Cancer, general
diflorasone	Pregna-1,4-diene-3,20-dione, 17,21-bis(acetyloxy)-6,9-difluoro-11-hydroxy-16-methyl-, (6Alpha,11B,16B)- [CAS]	33584-31-7			
Difloxacin		2557-49-5	US 3980778	Antipsoriasis	
Diflucortolone		98106-17-3			
		2607-6-9			



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API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
diflunisal	2,4'-difluoro-4-hydroxy[1,1'-biphenyl]-3-carboxylic acid	23674-86-4 22494-42-4	GB 1175212	Analgesic, NSAID	Pain, post-operative
Difluprednate		23674-86-4			
Digitalin		752-61-4			
Digitoxin		71-63-6			
digoxin	Card-20(22)-enolide, 3-(O-2,6-dideoxy-β-D-ribo-hexopyranosyl-(1-4)-O-2,6-dideoxy-β-D-ribo-hexopyranosyl-(1-4)-2,6-dideoxy-β-D-ribo-hexopyranosyl)oxy-12,14-dihydroxy-, (3S,5S,12S)- [CAS]	20830-75-5	US 4088750	Formulation, oral, enteric-coated	Heart failure
Dihexyverine		561-77-3			
Dihydralazine		484-23-1			
Dihydrocodeine		125-28-0			
Dihydrocodeinone Enol		466-90-0			
dihydroergocryptine	Ergocryptine, dihydro- [CAS]	25447-66-9		Formulation, other	Depression, general
dihydroergotamine	Ergotaman-3',6',18-trione, 9,10-dihydro-12'-hydroxy-2'-methyl-5'-(phenylmethyl)-, (5'Alpha,10Alpha)- [CAS]	511-12-6 509-60-4	6495535	Formulation, modified-release, other	Migraine
Dihydromorphine		128-46-1			
Dihydrostreptomycin		67-98-9			
Dihydrotachysterol		13682-92-3			
Dihydroxyaluminum		539-68-4			
Disopromine		5966-41-6			
Disopropyl Paraoxon		3254-66-8			
Disopropylamine		660-27-5			
diazepam	Benzolic acid, 3,4,5-trimethoxy-, (tetrahydro-1H-1,4-diazepine-1,4(5H)-diyl)-3,1-propanediyl ester [CAS]	35898-87-4	JP 51095086	Vasodilator, coronary	
Dilevalol		75559-07-3			
difloxanide	2-Furancarboxylic acid, 4-[(dichloroacetyl)methylamino]phenyl ester [CAS]	3736-81-0 579-38-4		Amoebicide	

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API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
diltiazem	1,5-Benzothiazepin-4(5H)-one, 3-(acetoxy)-5-[2-(dimethylamino)ethyl]-2,3-dihydro-2-(4-methoxyphenyl)-, (2S-cis)- [CAS]	33286-22-5 42399-41-7 7706-67-4 1165-48-6 36309-01-0 523-87-5 509-78-4 545-90-4 59-52-9 4757-55-5 695-53-4 519-30-2 5636-83-9 86-80-6 79-64-1 94-15-5 477-93-0 67-68-5 524-84-5 22950-29-4 119-48-2	US 4721619 US 5529791 EP 322277	Antianginal	Angina, hypertension, general
Dimacrotic Acid					
Dimeflin					
Dimemorfan					
Dimenhydrinate					
Dimenoxadol					
Dimepheptanol					
Dimercaprol					
Dimetacrine					
Dimethadione					
Dimethazan					
Dimethindene					
Dimethisoquin					
Dimethisterone					
Dimethocaine					
Dimethoxanate					
Dimethyl Sulfoxide					
Dimethylthiambutene					
Dimetofrine					
Dimorpholamine					
dinoprostone	Prosta-5,13-dien-1-ol-ic acid, 11,15-dihydroxy-9-oxo-, (5Z,11Alpha,13E,15S)- [CAS]	363-24-6		Formulation, modified-release, <=24hr	Labour, induction
diosmectite	Smecta- [CAS]	110070-78-5	FR 2770778	Antidiarrhoeal	Diarrhoea, general
diosmin	4H-1-Benzopyran-4-one, 7-[[6-O-(6-deoxy-Alpha-L-mannopyranosyl)-beta-D-glucopyranosyl]oxy]-5-hydroxy-2-(3-hydroxy-4-methoxyphenyl)- [CAS]	520-27-4 6495-46-1 467-86-7 497-75-6 131-53-3	DE 2602314	Vasoprotective, systemic	
Dioxadrol					
Dioxaphetyl					
Dioxethedrine					
Dioxybenzone					

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API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
Diphenamil		62-97-5			
Diphenadione		82-66-6			
Diphenacyprone		886-38-4			
Diphenhydramine		58-73-1			
Diphenidol		972-02-1			
Diphenoxylate		915-30-0			
Diphenylpyraline		147-20-6			
Diphetarsone		515-76-4			
Diphtheria & Tetanus Toxoids And Acellular Pertussis Vaccine Adsorbed					
Dipipanone	Propanoic acid, 2,2-dimethyl-, 4-[1-hydroxy-2-(methylamino)ethyl]-1,2-phenylene ester, (+/-) [CAS]	467-83-4		Antiglaucoma	Glaucoma
dipivefrin		52385-63-6	US 3809714		
Dipyrdamole		58-32-2			
Dipyrocatyl		486-79-3			
Dipyrrone		5907-38-0			
diquafosol	Uridine 5'-(pentahydrogen tetraphosphate)-5'-ester with uridine, [CAS]	211427-08-6		Ophthalmological	Dry eye syndrome
dirithromycin	Erythromycin, 9-deoxy-11-deoxy-9,11-[imino[2-(2-methoxyethoxy)ethylidene]oxy]-[9S(R)]-, [CAS]	62013-04-1	DE 2515075	Macrolide antibiotic	Tonsillitis
disodium pamidronate	Phosphonic acid, (3-amino-1-hydroxypropylidene)bis-, disodium salt [CAS]	57248-88-1	EP 177443	Osteoporosis treatment	Hypercalcaemia of malignancy
Disofenin		65717-97-7			
disopyramide	2-Pyridineacetamide, Alpha-[2-bis(1-methylethyl)amino]ethyl]-Alpha-phenyl- [CAS]	3737-09-5		Formulation, modified-release, <=24hr	Arrhythmia, general
Disigmine		15876-67-2			
Disulfamide		671-88-5			

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API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
<b>Disulfiram</b>	9(10H)-Anthracenone, 1,8-dihydroxy- [CAS]	97-77-8	WO 01027115	Formulation, dermal, topical	Psoriasis
<b>Difazol</b>		18471-20-0			
<b>Dithiazanine</b>		514-73-8			
dithranol		1143-39-0			
<b>Ditiocarb</b>		148-18-5			
<b>Dixanthogen</b>	(S)-7-(7S)-7-Amino-5-azaspiro[2.4]heptan-5-yl]-6-fluoro-1-[(1R,2S)-2-fluoro-1-cyclopropyl]-1,4-dihydro-8-methoxy-4-oxo-3-quinolinecarboxylic acid hydrochloride monohydrate	502-55-6	WO 01027115	Anticancer, other	Cancer, general
<b>Dixyrazine</b>		2470-73-7			
DJ-927					
<b>DK-507k</b>					
<b>DL-Lactic Acid</b>		598-82-3			
<b>DMDC</b>	Cytidine, 2'-deoxy-2'-methylene-monohydrochloride [CAS]	113648-25-2	WO 8807049	Anticancer, antimetabolite	Cancer, general
<b>DMXAA</b>	5,6-dimethylxanthenone-4-acetic acid		US 8132776	Anticancer, other	Cancer, lung, general
<b>DNA Stealth Nucleosides</b>				Antiviral, anti-HIV	Infection, HIV/AIDS
<b>Dobesilate</b>	1,2-Benzenediol, 4-[2-[3-(4-hydroxyphenyl)-1-methylpropyl]amino]ethyl-, (+)- [CAS]	20123-80-2	US 3987200	Cardio stimulant	
dobutamine		34368-04-2			
<b>Docarpamine</b>		49745-95-1			
	(2R,3S)-N-Carboxy-3-phenylisoserine, N-tart-butyl ester, 13-ester with 5R,20-epoxy-1,2Alpha,4,7R,10R,13Alpha-hexahydroxytax-11-en-9-one 4-acetate 2-benzoate- [CAS]	74639-40-0	EP 253738 EP 707487	Anticancer, other Hypolipaeamic/Antiatherosclerosis	Cancer, breast Hyperlipidaemia, general
docetaxel		114977-28-5			
docosahexaenoic acid		149408-66-6			
docosanol	1-Docosanol [CAS]	661-19-8	EP 469064	Antiviral, other	Infection, herpes simplex virus
docosate		128-49-4	US 4752617	Formulation, dermal, topical	Infection, herpes simplex virus prophylaxis
		577-11-7			

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API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
dofetilide	Methanesulfonamide, N-[4-[2-(methyl[2-(4-[(methanesulfonylamino)phenoxy]ethyl)amin]oxy]phenyl]-[CAS] 1H-indole-3-carboxylic acid, octahydro-3-oxo-2,6-methano-2H-quinolizin-8-yl ester, (2Alpha,8Alpha,8Alpha,9Alpha)-, monomethanesulfonate- [CAS]	115256-11-6 115956-13-3 115956-12-2 61869-07-6 538-71-6 112966-96-8	EP 245997 EP 266730	Antiarrhythmic Antiemetic	Fibrillation, atrial Chemotherapy-induced nausea and vomiting
dolasetron mesilate					
Domitodol					
Domiphen					
Domitroban					
domperidone	2H-Benzimidazol-2-one, 5-chloro-1-[1-(3-(2,3-dihydro-2-oxo-1H-benzimidazol-1-yl)propyl)-4-piperidinyl]-1,3-dihydro- [CAS]	57808-68-9	US 4066772	Antiemetic	
donepezil	1H-Inden-1-one, 2,3-dihydro-6,6-dimethoxy-2-[(1-(phenylmethyl)-4-piperidinyl)methyl]-, [CAS]	120011-70-3 120014-06-4	EP 296560	Cognition enhancer	Alzheimer's disease
donitriptan	Piperazine, 1-(((3-(2-aminocethyl)-1H-indol-5-yl)oxy)acetyl)-4-(4-cyanophenyl)- [CAS]	170912-52-4 51-61-6 86197-47-9		Antimigraine	Migraine
Dopamine					
Dopexamine	urea, N-[3-(1,1-dimethylethyl)-1-(4-methylphenyl)-1H-pyrazol-5-yl]-N-[4-[2-(4-morpholinyl)ethoxy]-1-naphthalenyl]-	285983-48-4 137339-64-1	WO 9414778	Antiarrhythmic, immunological Radio/chemosensitizer	Arthritis, rheumatoid Surgery adjunct
doramapimod	(3)-1,2,4-Butanetriol, 3-[(2-nitro-1H-imidazol-1-yl)methoxy]- [CAS]				
dorazidazole	(1R,5S,6S)-2-[(3S,5S)-5-(sulfamoylamino)methyl]pyrrolidin-3-ylthio-6-[(1R)-1-hydroxyethyl]-1-methylcarbamoyl-2-am-3-carboxylic acid	148016-81-3	EP 528678	Beta-lactam antibiotic	Infection, urinary tract
doripenem					
dorzolamide	4H-Thieno[2,3-b]thiopyran-2-sulfonamide, 4-(ethylamino)-5,6-dihydro-6-methyl-7,7-dioxide (4S-trans)- [CAS]	120279-96-1	EP 298879	Antiglaucoma	Glaucoma

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dozolamide + timolol	4H-Thieno(2,3-b)thiopyran-2-sulfonamide, 4-(ethylamino)-5,6-dihydro-6-methyl-7,7-dioxide (4S-trans) + ethyl 2-propanol, 1-[(1,1-dimethylamino)-3-[[4-(4-morpholinyl)-1,2,5-thiadiazol-3-yl]oxy], (S), (Z)-2-butenedioate (1:1) (salt) [CAS]	120279-96-1 26839-75-8 26921-17-5		Formulation, fixed-dose combinations	Glaucoma
	Aluminum, (μ7-7)-(6-O-(6-deoxy-2,3,4-tri-O-sulfo-Alpha-L-mannosylpyranosyl)-2,3,4-tri-O-sulfo-β-D-glucopyranosyl)oxy)-5-hydroxy-2-(4-methoxy-3-(sulfoxy)phenyl)-4H-1-benzopyran-4-one(7-))tetradeca-μ-hydroxyhenicosahydroxytetradeca- [CAS]	122312-55-4		Antiulcer	Ulcer, gastric
	1-Propanamine, 3-dibenzof, ethiopin-11(6H)-ylidene-N,N-dimethyl- [CAS]	113-53-1 84625-59-2 113-53-1		Antidepressant	
dotarizine		106819-53-8			
dothiepin		309-29-5			
doxacurium					
doxapram	Piperazine, 1-(4-amino-6,7-dimethoxy-2-quinazolinyl)-4-[(2,3-dihydro-1,4-benzodioxin-2-yl)carbonyl]- [CAS]	74191-85-8 40762-15-0 3254-93-1	GB 2007656	Antihypertensive, adrenergic	Hypertension, general
doxazosin		1688-19-5			
Doxefazepam					
Doxenitoin	1-Propanamine, 3-dibenzof, eioxepin-11(6H)-ylidene-N,N-dimethyl-			Formulation, dermal, topical	Pruritus
doxeracetol	9,10-secocergosta-5,7,10(19),22-tetraene-1,3-diol (1Alpha, 3β, 5Z, 7E, 22E) [CAS]	54573-75-0	US 5104854	Hormone	Hyperparathyroidism
doxifluridine	Uridine, 5'-deoxy-5-fluoro- [CAS]	3094-09-5	US 4071680	Anticancer, antimetabolite	Cancer, colorectal
doxofylline	1H-Purine-2,6-dione, 7-(1,3-dioxolan-2-ylmethyl)-3,7-dihydro-1,3-dimethyl- [CAS]	69975-86-6	US 4167308	Antiasthma	Asthma

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doxorubicin	5,12-Naphthacenedione, 10-[(3-amino-2,3,6-trideoxy- $\alpha$ -L-lyxohexopyranosyloxy)-7,8,9,10-tetrahydro-6,8,11-trihydroxy-8-(hydroxyacetyl)-1-methoxy]-, (8S-cis)- [CAS] 2-Naphthacene-1-carboxamide, 4-(dimethylamino)-1,4,4a,5,5a,6,11,12a-octahydro-3,5,10,12,12a-pentahydroxy-6-methyl-1,11-dioxo-[4S- (4 $\alpha$ ,4a $\alpha$ ,5 $\alpha$ ,6 $\alpha$ ,5a $\alpha$ ,6 $\alpha$ ,11 $\alpha$ ,12a $\alpha$ )-2a $\alpha$ ]- [CAS] N,N-Dimethyl-2-[1-phenyl-1-(2-pyridinyl)ethoxy]ethanamine	23214-92-8 564-25-0 17086-28-1 469-21-6	EP 191824	Formulation, optimized, liposomes Formulation, modified-release, immediate Formulation, transmucosal, systemic	Cancer, general Periodontitis Rhinitis, allergic, general
doxycycline	(3-D,2',3'-didehydro-2',3'-dideoxy-5-fluorocytidine				
doxylamine					
DPC-817					
DPI-3290			US 5681830	Antiviral, anti-HIV Analgesic, other	Infection, HIV/AIDS Pain, general
DQ-113					
Drofenine	5-Amino-7-[(3S,4R)-(1-aminocyclopropyl)-3-fluoropyrrolidin-1-yl]-1-[(1R,2S)-2-fluoro-1-cyclopropyl]-1,4-dihydro-8-methyl-4-oxo-3-quinolinecarboxylic acid	1679-76-1 82413-20-5 2440-22-4 58-19-5		Quinolone antibacterial	Infection, general
Droloxiene					
Drometrizole					
Dromostanolone					
dronabinol	6H-Dibenzo[b,d]pyran-1-ol, 6a,7,8,10a-tetrahydro-6,9-trimethyl-3-pentyl-, (6aR-trans)- [CAS] 2-n-Butyl 3-[4-(3-di-n-butylamino-propoxy)benzoyl]-5-methylsulfonamidobenzofuran	1972-08-3		Antiemetic	Chemotherapy-induced nausea and vomiting
dronedarone					
Dropridol		548-73-2 57653-27-7		Antiarrhythmic	Arrhythmia, general
Drophenilamine					

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API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
Dropropizine		17692-31-8			
Drospirenone		67392-87-4			
Drotaverine		14009-24-6			
Protebanol		3/2/3176			
droxicam	2H,5H-1,3-Oxazino[5,6-c][1,2]benzothiazine-2,4-(3H)-dione, 5-methyl-3-(2-pyridinyl)-, 6,6-dioxide [CAS]		EP 99770	Anti-inflammatory	Inflammation, general
droxidopa	L-Tyrosine, β,3-dihydroxy, threo- [CAS]	90101-16-9	EP 128684	Antiparkinsonian	Parkinson's disease
Droxidopa		23651-95-8			
DU-125530	1,2-Benzisothiazol-3(2H)-one, 2-{4-{(7-chloro-2,3-dihydro-1,4-benzodioxin-5-yl)-1-piperazinyl}butyl}-, 1,1-dioxide [CAS]	161611-99-0	EP 633260	Anxiolytic	Anxiety, general
duloxetine	2-Thiophenepropanamine, N-methyl-Gamma-(1-naphthalenylloxy)-, hydrochloride, (S)- [CAS]	136434-34-9	US 5362866	Antidepressant	Depression, general
duramycin		116539-59-4	WO 9428726	Formulation, inhalable, solution	Cystic fibrosis
Durapatite		1306-06-5			
dutasteride	4-Azaandro-1-ene-17-carboxamide, N-(2,5-bis(trifluoromethyl)phenyl)-3-oxo-, (5Alpha,17β)- [CAS]	164656-23-9	US 5565467	Prostate disorders	Benign prostatic hyperplasia
DW-1141	N,N-diisopropyl-4-{4-(3-aminobenzoyl)isoxazol-6-yl}oxy)butoxy]-3-methoxybenzamide			Osteoporosis treatment	Osteoporosis
DW-286a	(R)-(+)-7-((4-aminomethyl-4-methyl-3-(Z)-methoxyiminol)pyrrolidin-1-yl)-1-cyclopropyl-6-fluoro-4-oxo-1,4-dihydro[1,8]naphthyridine-3-carboxylic acid		US 5922871	Quinolone antibacterial Antiviral, other	Infection, general Infection, hepatitis-B virus
DW-471					



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DX-9065a	2-Naphthalenepropanoic acid, 7-(aminominoethyl)-Alpha-[4-[[1-(1-iminoethyl)-3-pyrrolidinyl]oxy]phenyl]-monohydrochloride, pentahydrate, [S-(R*,R*)]- [CAS]	155204-81-2		Antithrombotic	Thrombosis, general
DY-9760e	1H-Indazole, 3-[2-[4-(3-chloro-2-methylphenyl)-1-piperazinyl]ethyl]-1-(1H-imidazol-4-ylmethyl)-5,6-dimethoxy- [CAS]	160522-00-9	US 5881954	Neuroprotective	Ischaemia, cerebral
Dyclonine		586-60-7			
Dydrogesterone		152-62-5			
Dymanthine		124-28-7			
Dyphylline		479-18-5			
E-1010	1-Azabicyclo[3.2.0]hept-2-ene-2-carboxylic acid, 6-[(1R)-1-hydroxyethyl]-3-[[[(3S,5S)-5-[(R)-hydroxy(3R)-3-pyrrolidinylmethyl]-3-pyrrolidinyl]thio]-4-methyl-7-oxo-, monohydrochloride, (4R,5S,6S)- [CAS]	186319-97-1		Beta-lactam antibiotic	Infection, general
E-2101	N-Ethyl-1-(1-(2-fluorophenethyl)piperidin-4-yl)-1H-indol-6-yl)acetamide				
E2F antagonists	Benzamide, 4-amino-5-chloro-N-(8-methyl-8-azabicyclo[3.2.1]oct-3-yl)-2-[(1-methyl-2-butynyl)oxy]-, monohydrochloride, [3(S)-endo]- [CAS]		WO 9606943	Muscle relaxant Anticancer, other	Muscle spasm, general Cancer, general
E-3620		151213-86-4	EP 554794	Antacid/Antiflatulent	Dyspepsia
E-5564	Alpha-D-Glucopyranose, 3-O-decyl-2-deoxy-6-O-(2-deoxy-3-O-(3R)-3-methoxydecyl)-6-O-methyl-2-(((11Z)-1-oxo-11-octadecanyl)amino)-4-O-phosphono-beta-D-glucopyranosyl)-2-((1,3-dioxotetradecyl)amino)- 1-(dihydrogen phosphate), tetrasodium salt [CAS]	185954-98-7	EP 536969	Septic shock treatment	Sepsis

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E-5842	Pyridine, 4-(4-fluorophenyl)-1,2,3,6-tetrahydro-1-[4-(1H-1,2,4-triazol-1-yl)butyl]-2-hydroxy-1,2,3-propanetricarboxylate (1:1) [CAS]	220120-14-9		Neuroleptic	Schizophrenia
E-6259	1-(4-Aminosulfonylphenyl)-5-(2,4-difluorophenyl)-4,5-dihydro-3-trifluoromethyl-1H-pyrazole			Antiarthritic, other	Unspecified
EAA-90	[2-(8,9-Dioxo-2,6-diazabicyclo[5.2.0]non-1(7)-en-2-yl)-ethyl]phosphonic acid			Analgesic, other	Pain, neuropathic
e-Acetamidocaprolic Acid		57-08-9			
e-Aminocaprolic Acid		60-32-2			
ebastine	1-Butanone, 1-[4-(1,1-dimethylethyl)phenyl]-4-[4-(diphenylmethoxy)-1-piperidinyl]- [CAS]	90729-43-4	EP 134124	Antiallergic, non-asthma	Rhinitis, allergic, seasonal
eboronazole	1H-imidazole, 1-(2,4-dichloro-10,11-dihydro-5H-dibenzo[a,d]cyclohepten-5-yl)- [CAS]	128326-82-9 130104-32-4	ES 2012297	Antifungal	Infection, dermatological
ebrotiline	Benzenesulfonamide, N-[[[2-[[[2-[(aminominoethyl)amino]-4-thiazolyl]methyl]thio]ethyl]amino]methylene]-4-bromo- [CAS]	100981-43-9	EP 159012	Antitumor	Ulcer, duodenal
ebtselen	1,2-Benzisoxelenazol-3(2H)-one, 2-phenyl- [CAS]	60940-34-3 474-00-0 104775-36-2	EP 44971	Neuroprotective	Haemorrhage, subarachnoid
Ebumamonine					
Ecabaptide	1-Phenanthrenecarboxylic acid, 1,2,3,4,4a,9,10,10a-octahydro-1,4a-dimethyl-7-(1-methylethyl)-6-sulfo-, [1R-(1Alpha,4aB,10aAlpha)]- [CAS]	33159-27-2 86408-72-2	DE 3239172	Antitumor	Ulcer, gastric
ecabet	Glycine, N-[2-[(acetylthio)methyl]-1-oxo-3-phenylpropyl]-, phenylmethyl ester, (S)- [CAS]	112573-73-6 484-93-5 481-37-8 513-10-0	EP 318377	Antihypertensive, other	Hypertension, general
ecadotril					
Ecgonidine					
Ecgonine					
Echothiophate					

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API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
Econazole	5H-Benzod[naphth][2,1-b]azepin-12-ol, 11-chloro-6,8,7,9,13b-hexahydro-7-methyl-, (8aS-trans)- [CAS]	27220-47-9			
ecopipam	Prosta-8,13-dien-1-oic acid, 11,15-dihydroxy-9-(1-oxobutoxy)-, butyl ester, (11Alpha,13E,15S)- [CAS]	112108-01-7	EP 230270	Anorectic/Antiobesity	Obesity
ecaprost		136892-64-3	EP 423697	Vasodilator, peripheral	Peripheral vascular disease
Ectylurea		95-04-5			
ED-71	9,10-Secocholesta-5,7,10(19)-triene-1,3,25-triol, 2-(3-hydroxypropoxy)-, (1Alpha,2B,3S,5Z,7E)- [CAS]	104121-92-8	EP 184206	Osteoporosis treatment	Osteoporosis
edaravone	3H-Pyrazol-3-one, 2,4-dihydro-5-methyl-2-phenyl- [CAS]	89-25-8	JP 62108814	Neuroprotective	Infarction, cerebral
Edatrexate		80576-83-6			
Edetate Calcium		62-33-9			
Disodium					
Edetate Disodium		139-33-3			
Edetate Sodium		64-02-8			
Edetate Trisodium		150-38-9			
edonentan	Butanamide, N-[[2-[[4,5-dimethyl-3-isoxazolyl]amino]sulfonyl]-4-(2-oxazolyl)[1,1'-biphenyl]-2-yl]methyl]-N,3,3-trimethyl-, monohydrate	210891-04-6		Cardio stimulant	Heart failure
edotreotide	[N-[2-[4,7-Bis[(carboxy-kappaO)methyl]-10-(carboxymethyl)-1,4,7,10-tetraazacyclododec-1-yl-kappaN1,kappaN4,kappaN10]acetyl]-D-phenylalanyl-L-cysteinyl-L-tyrosyl-D-tryptophyl-L-lysyl-L-threonyl-L-cysteinyl-L-threoninol cyclic (2-7)-disulfide(3-yl)]ytium	204318-14-9	US 6183721	Anticancer, hormonal	Cancer, lung, small cell
edoxudine	Uridine, 2'-deoxy-5-ethyl- [CAS]	15176-29-1	GB 1170565	Antiviral, other	Infection, herpes virus, general
Edrecolomab		156586-89-9			
Edrophonium		116-38-1			
Efalith	Butanedioic acid, lithium salt [CAS]	16090-09-8		Antipruritic/inflam, allergic	Eczema, seborrheic

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API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
efaproxiral	Propanoic acid, 2-[4-[2-[(3,5-dimethylphenyl)amino]-2-oxoethyl]phenoxy]-2-methyl- [CAS]	131179-95-8	US 5705521	Radio/chemosensitizer	Cancer, brain
efavirenz	2H-3,1-Benzoxazin-2-one, 6-chloro-4-(cyclopropylethynyl)-1,4-dihydro-4-(trifluoromethyl)-, (S)- [CAS]	154598-52-4	WO 9403440	Antiviral, anti-HIV	Infection, HIV/AIDS
efeltizine	[2-[4-[Bis(p-fluorophenyl)methyl]-1-piperazinyl]ethoxy]acetic acid	150758-35-7 70052-12-9	GB 2311940	Antiallergic, non-asthma	Allergy, general
efornithine	DL-Omithine, 2-(difluoromethyl)- [CAS]	67037-37-0	US 4413141	Protozoacide, dermal, topical	Infection, trypanosomiasis, African, Hirsutism
<b>Eflorate</b>		119-41-5			
eflucimibe	Benzeneacetamide, Alpha-(dodecylthio)-N-(4-hydroxy-2,3,5-trimethylphenyl)- (S)- [CAS]	202340-45-2		Hypolipaeamic/Antiatherosclerosis	Hyperlipidaemia, general
efonidipine	3-pyridinecarboxylic acid, 5-(5,5-dimethyl-1,3,2-dioxaphosphorinan-2-yl)-1,4-dihydro-2,6-dimethyl-4-(3-nitrophenyl)-, 2-(phenyl(phenylmethyl)amino)ethyl ester, P, oxide [CAS]	111011-53-1 111011-63-3 111011-76-8	EP 230944	Antihypertensive, other	Hypertension, general
EGIS-7229	5-Chloro-4-[3-[N-2-(3,4-dimethoxyphenyl)ethyl]-N-methylamino]propylamino)-3(2H)-pyridazinone fumarate [CAS]	150800-12-7 190333-92-7	DE 4243381	Antiarrhythmic	Arrhythmia, general
eglumegad	Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-, (1S,2S,5R,6S)- [CAS]	176199-48-7 209216-09-1		Anxiolytic	Anxiety, general
egualen	1-Azulenecarboxylic acid, 3-ethyl-7-(1-methylethyl)-	97683-31-3 99287-30-6	EP 147915	Anticancer	Ulcer, gastric
<b>Eicosapentaenoic Acid</b>		10417-94-4			
elarofiban	3-Pyridinepropanoic acid, 5-[(3R)-1-[1-oxo-3-(4-piperidinyl)propyl]-3-piperidinyl]carbonylamino]-, (3S)- [CAS]	198958-88-2 60731-46-6 69-25-0	WO 9741102	Antithrombotic	Thrombosis, general
<b>Elcatonin</b>					
<b>Elfedolsin</b>					
eletriptan	1H-Indole, 3-[(1-methyl-2-pyrrolidinyl)methyl]-5-(2-phenylsulfonyl)ethyl)- (R)- [CAS]	143322-58-1	US 5607951	Antimigraine	Migraine

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API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
<b>Elgodipine</b>		119413-55-7			
<b>Ellagic Acid</b>		476-66-4			
<b>Elliptinium</b>		58337-35-2			
<b>Eltoprazine</b>		98224-03-4			
<b>etavutabine</b>	$\beta$ -L-2',3'-Didehydro-2',3'-dideoxy-5-fluorocytidine	181785-84-2		Antiviral, other	Infection, hepatitis-B virus
<b>etazonan</b>	(2Z)-4-(3,4-dichlorophenyl)-2-[2-(4-methylpiperazin-1-yl)benzylidene]thiomorpholin-3-one monohydrochloride- [CAS]	220322-05-4 361343-20-6		Antidepressant	Depression, general
<b>Embelin</b>		550-24-3			
<b>Embramine</b>	1H-Benzimidazole, 1-(2-ethoxyethyl)-2-(hexahydro-4-methyl-1H-1,4-diazepin-1-yl)- (E)-2-butenedioate (1:2) [CAS]	3565-72-8 87233-61-2 87233-62-3	EP 79545	Antiallergic, non-asthma	Rhinitis, allergic, general
<b>emetastine</b>		3614-30-0			
<b>Emepronium</b>		483-18-1			
<b>Emetine</b>		110690-43-2			
<b>Emitefur</b>					
<b>EMM-210525</b>	17Alpha-Acetoxy-6Alpha-methyl-19-nor-1 $\beta$ ,2 $\beta$ -dihydrocyclopopa[1,2]pregn-4-ene-3,20-dione+Estra-1,3,5(10)-triene-3,17-diol(17 $\beta$ )			Formulation, fixed-dose combinations	Hormone replacement therapy
<b>Emodin</b>		518-82-1			
<b>emorfazon</b>	3(2H)-Pyridazinone, 4-ethoxy-2-methyl-5-(4-morpholinyl)- [CAS]	38957-41-4	JP 7224030	Anti-inflammatory	
<b>EMR-62203</b>			WO 9806722	Male sexual dysfunction	Impotence
<b>emtricitabine</b>	2(1H)-Pyrimidinone, 4-amino-5-fluoro-1-(2-(hydroxymethyl)-1,3-oxathiolan-5-yl)-, (2R, cis)- [CAS]	143491-57-0	WO 9214743	Antiviral, anti-HIV	Infection, HIV/AIDS
<b>Emyleamate</b>		78-28-4			
<b>enalapril</b>	L-Proline, 1-[N-(1-(ethoxycarbonyl)-3-phenylpropyl)-L-alanyl]-, (S)-, (2S)-2-butenedioate [CAS]	76095-16-4	US 4374829	Antihypertensive, renin system	
<b>Enalaprilat</b>		76420-72-9			
<b>Enallhypropymal</b>		1861-21-8			

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API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
Encainide		66778-36-7			
Enciprazine		68576-86-3			
Endralazine		39715-02-1			
enferanamic acid	Benzoic acid, 2-[(2-phenylethyl)amino]- [CAS]			Anti-inflammatory	
enflurane	Ethane, 2-chloro-1-(difluoromethoxy)-1,2- trifluoro- [CAS]	23049-93-6	IN 103066	Anaesthetic, inhalation	Anaesthesia
Enilconazole		13838-16-9	US 3469011		
Eniluracil		35554-44-0			
ENMD-0995	S-3-amino-phthalidoglutarimide	59989-18-3			
Enocitabine			US 5712291	Anticancer, other	Cancer, myeloma
Enol-3-IPA	1H-Indole-3-propanoic acid, Alpha-oxo- [CAS]	55726-47-1			
enoxacin	1,8-Naphthyridine-3-carboxylic acid, 1- ethyl-6-fluoro-1,4-dihydro-4-oxo-7-(1- piperazinyl)- [CAS]	392-12-1	EP 106813	Hypnotic/Sedative	Insomnia
enoxaparin	Heparin, [CAS]	74011-58-8	US 4359578	Quinolone antibacterial	Infection, general
enoximone	2H-Imidazol-2-one, 1,3-dihydro-4-methyl-5- [4-(methylthio)benzoyl]- [CAS]	9005-49-6 9041-08-1	EP 40144	Antithrombotic	Thrombosis, venous
Enoxolone		77671-31-9 471-53-4	EP 59948	Cardio stimulant	Heart failure
enprostil	4,5-Heptadienoic acid, 7-[3-hydroxy-2-(3- hydroxy-4-phenoxy-1-butenyl)-5- oxocyclopentyl]-, methyl ester, [1Alpha,2S(1E,3R),3Alpha]- [CAS]	73121-56-9	GB 2025431	Prostaglandin	Ulcer, duodenal
enrasentan	1H-Indene-2-carboxylic acid, 1-(1,3- benzodioxol-5-yl)-2,3-dihydro-3-(2-(2- hydroxyethoxy)-4-methoxyphenyl)-5- propoxy-, (1S-(1Alpha,2S,3Alpha))- [CAS]	167256-08-8	US 5817693	Antihypertensive, other	Hypertension, pulmonary
entacapone	2-Propenamide, 2-cyano-3-(4,5-dihydroxy- 3-nitrophenyl)-N,N-diethyl- [CAS]	130929-57-8	EP 428468	Antiparkinsonian	Parkinson's disease
entecavir	6H-Purin-6-one, 2-amino-1,9-dihydro-9- ((1S,3R,4S)-4-hydroxy-3-(hydromethyl)- 2-methylenecyclopentyl)- [CAS]	142217-69-4	EP 481754	Antiviral, other	Infection, hepatitis-B virus

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<b>Enviomycin</b>		33103-22-9			
epalrestat	3-Thiazolidineacetic acid, 5-(2-methyl-3-phenyl-2-propenylidene)-4-oxo-2-thioxo-, (E,E)- [CAS]	82159-09-9	EP 47109	Symptomatic antidiabetic	Neuropathy, diabetic
Epavir	L-lysine-cis-5,8,11,14,17-eicosapentanoate with L-lysine-cis-4,7,10,13,16,19-doahexanoate L-ascorbic acid 2-(3,4-dihydro-2,5,7,8-tetramethyl-2-(4,8,12-trimethyltridecyl)-2H-1-benzopyran-6-yl)-hydrogen phosphate/potassium- [CAS] 1-Propanone, 1-(4-ethylphenyl)-2-methyl-3-(1-piperidinyl)- [CAS]			Antiviral, other	Infection, herpes simplex virus
<b>EPC-K1</b>		127061-56-7	EP 127471	Neuroprotective	Infarction, cerebral
eparisone		64840-90-0	US 3995047	Muscle relaxant	Spastic paralysis
epervudine	Uridine, 2'-deoxy-5-(1-methyl-ethyl)- [CAS]	60136-25-6	DE 2918260	Antiviral, other	Infection, herpes simplex virus
<b>Ephefrine</b>		299-42-3			
<b>Epiceilin</b>		26774-90-3			
<b>Epimestrol</b>		7004-98-0			
epinastine	1H-Dibenz[c,f]imidazol[1,5-a]azepin-3-amine, 9,13b-dihydro- [CAS] (R)-4-[1-hydroxy-2-(methylamino)-ethyl]-1,2-benzazenediol	80012-43-7	DE 3008944	Antiasthma	Asthma
epinephrine		51-43-4			
<b>Epilrtole</b>		18694-40-1		Formulation, inhalable, dry powder	Anaphylaxis
epirubicin	5,12-Naphthacenedione, 10-[(3-amino-2,3,6-trideoxy-Alpha-L-arabinohexopyranosyl)oxy]-7,8,9,10-tetrahydro-6,8,11-trihydroxy-8-(hydroxyacetyl)-1-methoxy-, (8S-cis)- [CAS]	56390-09-1 56420-45-2 2363-58-8	GB 1457632	Anticancer, antibiotic	
<b>Epithostanol</b>	Pregn-4-ene-7,21-dicarboxylic acid, 9,11-epoxy-17-hydroxy-3-oxo-, Gamma-lactone, methyl ester (7Alpha, 11Alpha, 17Alpha)- [CAS]				
epifenone		107724-20-9	EP 122232	Antihypertensive, diuretic	Hypertension, general

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epilivanserin	1-Propanone, 1-(2-fluorophenyl)-3-(4-hydroxyphenyl)-, O-(2-(dimethylamino)ethoxy)oxime, (Z)-, (E)-2-butenedioate (2:1) (salt) [CAS]	130580-02-8	EP 373998	Anxiolytic	Schizophrenia
epoprostenol	Prosta-5,13-dien-1-oxic acid, 6,9-epoxy-11,15-dihydroxy-	35121-78-9			
Epostane	(5Z,9Alpha,11Alpha,13E,15S)-[CAS]	61849-14-7	DE 2720999	Prostaglandin	Hypertension, pulmonary
Eprazinone		80471-63-2			
Epristeride		10402-90-1			
		119169-78-7			
eprosartan	3-[2-Butyl-1-(4-carboxybenzyl)-1H-imidazol-5-yl]-2-(2-thienylmethyl)-2-(E)-propenoic acid	133040-01-4	EP 403159	Antihypertensive, renin system	Hypertension, general
Eprozinol		32665-36-4			
epitapirone	4-methyl-2-[4-(4-pyrimidin-2-yl)-piperazino]-butyl-2H,4H-1,2,4-triazin-3,5-dione	179756-85-5		Antidepressant	Depression, general
epitaplatin	Platinum, [(4R,5R)-2-(1-methylethyl)-1,3-dioxolane-4,5-dimethanamine-kappaN4,kappaN5]propanedioato(2-)-kappaO1,kappaO3]-, (SP-4-2)-, [CAS]	146665-77-2	WO 9216539	Anticancer, alkylating	Cancer, lung, small cell
Eptastigmine		101246-68-8			
epitazocine	1,6-Methano-1H-4-benzazonin-10-ol, 2,3,4,5,6,7-hexahydro-1,4-dimethyl-, (1S)-, [CAS]	72522-13-5	US 4082744	Analgesic, other	
Eptiribatide		188627-80-7			
Equilenin		517-09-9			
Equilin		474-86-2			
ERA-923	ERA 923 [CAS]	352233-89-7	EP 802183	Female contraceptive	Contraceptive, female
erdosteine	Acetic acid, [2-oxo-2-[(tetrahydro-2-oxo-3-thienyl)amino]ethylthio]-, [CAS]	84811-23-4	EP 61388	Respiratory	Respiratory disease, general
Ergocornine		564-36-3			
Ergocorninine		564-37-4			
Ergoloid Mesylates		8067-24-1			
Ergonovine		60-79-7			
Ergosterol		57-87-4			



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ergotamine	(5Alpha)-12-Hydroxy-2-methyl-(phenylmethyl)ergotaman-3',6',18-trione	113-15-5		Formulation, inhalable, systemic	Migraine
<b>Ertidinenine</b>		23918-98-1			
erlotinib	4-Quinazolinamine, N-(3-ethynylphenyl)-6,7-bis(2-methoxyethoxy)-monohydrochloride [CAS]	183319-69-9	WO 9630347	Anticancer, other	Cancer, lung, non-small cell
ertapenem	1-Azabicyclo[3.2.0]hept-2-ene-2-carboxylic acid, 3-[[[(3S,5S)-5-[(3-carboxyphenyl)amino]carbonyl]-3-pyrolidinylthio]-6-[(1R)-1-hydroxyethyl]-4-methyl-7-oxo-, [CAS]	153773-82-1 153832-46-3 7297-25-8 50276-98-7	WO 9315078	Beta-lactam antibiotic	Infection, GI tract
<b>Erythrityl Tetranitrate</b>					
<b>Erythrocentaurin</b>	Erythromycin, 2'-acetate, octadecanoate (salt) [CAS]	96128-89-1 3521-62-8 23067-13-2	US 4599326	Macrolide antibiotic	Infection, general
erythromycin acistrate		3847-29-8			
<b>Erythromycin Estolate</b>					
<b>Erythromycin</b>		134-36-1			
<b>Glucosheptonate</b>					
<b>Erythromycin</b>					
<b>Lactoblonate</b>					
<b>Erythromycin</b>					
<b>Propionate</b>					
<b>Erythromycin Stearate</b>	Erythromycin, 2'-propanoate compd. with N-acetyl-L-cysteine (1:1) [CAS]	643-22-1			
erythromycin stinoprate	Erythromycin [CAS]	84252-03-9 114-07-8	EP 57489	Macrolide antibiotic Formulation, dermal, topical	Infection, respiratory tract, lower Acne
erythromycin		36150-73-9 64204-55-3			
<b>Erythrophleline</b>					
<b>Esaprazole</b>	5-Isobenzofurancarboxonitrile, 1-[3-(dimethylamino)propyl]-1-(4-fluorophenyl)-1,3-dihydro-, (S)- [CAS]	128196-01-0 531-75-9 25573-43-7	EP 347066	Antidepressant	Depression, general
escitalopram					
<b>Esculin</b>					
<b>Eseridine</b>					

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API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
esmolol	Benzenepropanoic acid, 4-(2-hydroxy-3-[(1-methylethyl)amino]propoxy)-, methyl ester, (+/-) [CAS]	81147-92-4	US 4387103	Antihypertensive, adrenergic	Tachycardia, supraventricular
esomeprazole	Bis (5-methoxy-2-[(4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl)-1H-benzimidazolato	161973-10-0	US 5877192	Antispasmodic	Gastro-oesophageal reflux
estazolam	4H-[1,2,4]Triazolo[4,3-a][1,4]benzodiazepine, 8-chloro-6-phenyl- [CAS]	29975-16-4	US 3987052	Hypnotic/Sedative	
estradiol	Androst-4-en-3-one, 17-hydroxy-, (17 $\beta$ )- [CAS]	58-22-0	US 5460820	Formulation, transdermal, patch	Sexual dysfunction, female
estradiol	Estra-1,3,5(10)-triene-3,17-diol (17 $\beta$ )- [CAS]	50-28-2 2998-57-4 4891-15-0 52205-73-9 50-27-1	EP 430491	Formulation, transdermal, systemic	Menopausal symptoms, general
estramustine	Estra-1,3,5(10)-triene-3,17-diol (17 $\beta$ ), 3-[bis(2-chloroethyl)carbamate] 17- [CAS]				
estriol		53-16-7	WO 9924041	Anticancer, alkylating	Cancer, prostate
estrogen				Menopausal disorders	Menopausal symptoms, general
Estrone					
eszopiclone	1-Piperazinecarboxylic acid, 4-methyl-6-(5-chloro-2-pyridinyl)-6,7-dihydro-7-oxo-5H-pyrrolo(3,4-b)pyrazin-5-yl ester (S)- [CAS]	138729-47-2 7681-79-0 90-54-0 314-35-2 185243-69-0 22668-01-5 7432-25-9 27511-99-5 442-16-0 58-54-8 520-77-4 74-55-5 304-84-7	US 5786357	Hypnotic/Sedative	Insomnia
Etacfedrine					
Etafenone					
Etamiphyllin					
Etanercept					
Etanidazole					
Etacualone					
Eterobarb					
Ethacridine					
Ethacrynic Acid					
Ethadione					
Ethambutol					
Ethamivan					

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API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
Ethamsylate		2624-44-4			
Ethanalamine		141-43-5			
Ethaverine		486-47-5			
Ethchlorvynol		113-18-8			
Ethenzamide		938-73-8			
Ethiazide		1824-58-4			
Ethinamate		126-52-3			
Ethinyl Estradiol		57-63-6			
ethinyl estradiol	19-Norpregna-1,3,5(10)-trien-20-yne-3,17-diol, 3-(2-propanesulfonate), (17 $\alpha$ )-[CAS]	28913-23-7	DE 1949095	Formulation, modified-release, >24hr	Cancer, prostate
Ethionamide		536-33-4			
Ethisterone		434-03-7			
Ethioheptazine		77-15-6			
Ethiopropazine		522-00-9			
Ethosuximide		77-67-8			
Ethotoin		86-35-1			
Ethoxzolamide		452-35-7			
Ethybenztropine		524-83-4			
Ethyl Alcohol		64-17-5			
Ethyl Biscoumaracetate		548-00-5			
Ethyl Chloride		75-00-3			
Ethyl Dibunrate		5560-69-0			
Ethyl Ether		60-29-7			
ethyl icosapentate	5,8,11,14,17-Eicosapentaenoic acid, ethyl ester, (all-Z)-[CAS]	86227-47-6	JP 61043143	Antithrombotic	Peripheral vascular disease
ethyl loflazepate	1H-1,4-Benzodiazepine-3-carboxylic acid, 7-chloro-5-(2-fluorophenyl)-2,3-dihydro-2-oxo-, ethyl ester [CAS]	29177-84-2	US 3657223	Anxiolytic	Anxiety, general
Ethyl loflazepate		29177-84-2			
Ethylamine		75-04-7			
Ethylene		74-85-1			
Ethylestrenol		965-90-2			
Ethylidene Dicummarol		1821-16-5			

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API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
<b>Ethylmethythiambutene</b>		441-61-2			
<b>Ethylmorphine</b>		76-58-4			
<b>Ethylmorphinephrine</b>		536-24-3			
<b>Ethynodiol</b>		1231-93-2			
ethynodiol	Uridine, 3'-C-ethynyl- [CAS]	180300-49-6	WO 9618636	Anticancer, antimetabolite	Cancer, general
<b>Etidocaine</b>		36637-18-0			
etidocaine	Phosphonic acid, (1-hydroxyethylidene)bis- [CAS]	2809-21-4	US 4137309	Osteoporosis treatment	Osteoporosis
<b>Etidronic Acid</b>		7414-83-7			
<b>Etifelmin</b>		2809-21-4			
etifelmin	4H-3,1-Benzoxazin-2-amine, 6-chloro-N-ethyl-4-methyl-4-phenyl- [CAS]	341-00-4			
etifoxine		21715-46-8	US 3725404	Anxiolytic	
<b>Etilefrin</b>		709-55-7			
etilevodopa	L-Tyrosine, 3-hydroxy-, ethyl ester [CAS]	37178-37-3	US 5354885	Antiparkinsonian	Parkinson's disease
etiprednol	androsta-1,4-diene-17-carboxylic acid, 17-[[[dichloroacetyl]oxy]-11-hydroxy-3-oxo-, ethyl ester, (11 $\beta$ , 17 $\alpha$ )-	199331-40-3		GI inflammatory/bowel disorders	Crohn's disease
<b>Etiroxate</b>		17365-01-4			
<b>Etizolam</b>		40054-69-1			
etodolac	Pyranol[3,4-b]indole-1-acetic acid, 1,8-diethyl-1,3,4,9-tetrahydro- [CAS]	41340-25-4	US 3939178	Antiarthritic, other	Arthritis, osteo
<b>Etodroxizine</b>		17692-34-1			
etofenamate	Benzoic acid, 2-[[3-(trifluoromethyl)phenyl]amino]-, 2-(2-hydroxyethoxy)ethyl ester [CAS]	30544-47-9	GB 1285400	Anti-inflammatory, topical	Inflammation, general
etofibrate	3-Pyridinecarboxylic acid, 2-[2-(4-chlorophenoxy)-2-methyl-1-oxopropoxy]ethyl ester [CAS]	31637-97-5	US 3723446	Hypolipaeic/Antiatherosclerosis	
<b>Etofylline</b>		519-37-9			
etofylline clobifrate	Propanoic acid, 2-(4-chlorophenoxy)-2-methyl-, 2-(1,2,3,6-tetrahydro-1,3-dimethyl-2,6-dioxo-7H-purin-7-yl)ethyl ester [CAS]	54504-70-0	DE 2308826	Hypolipaeic/Antiatherosclerosis	
<b>Etofylline Nicotinate</b>		13425-39-3			

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API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
<b>Eto glucid</b>		1954-28-5			
<b>Eto midate</b>		33125-97-2			
<b>Eto midoline</b>		21590-92-1			
<b>Eto nifazene</b>		911-65-9			
etonogestrel	18,19-Dinorpregn-4-en-20-yn-3-one, 13-ethyl-17-hydroxy-11-methylene, (17 $\alpha$ ) [CAS]	54048-10-1		Formulation, implant	Contraceptive, female
<b>Eto peridone</b>		52942-31-1			
etoposide	Furo[3',4':6,7]naphtho[2,3-d]-1,3-dioxol-6(5aH)-one, 9-[(4,6-O-ethylidene- $\beta$ -D-glucopyranosyl)oxy]-5,8,9-tetrahydro-5-(4-hydroxy-3,5-dimethoxyphenyl)-, [5R-[5 $\alpha$ A,5 $\alpha$ B,8 $\alpha$ A,9 $\alpha$ (R')]]- [CAS]	33419-42-0	GB 1205966	Anticancer, other	Cancer, testicular
etoposide phosphate	Furo[3',4':6,7]naphtho[2,3-d]-1,3-dioxol-6(5aH)-one, 5-{3,5-dimethoxy-4-(phosphonoxy)phenyl}-9-[(4,6-O-ethylidene- $\beta$ -D-glucopyranosyl)oxy]-5,8,9-tetrahydro-, [5R-[5 $\alpha$ A,5 $\alpha$ B,8 $\alpha$ A,9 $\alpha$ (R')]]- [CAS]	117091-64-2	EP 302473	Anticancer, other	Cancer, testicular
etoricoxib	2,3-Bipyridine, 5-chloro-6-methyl-3-(4-(methylsulfonyl)phenyl) [CAS]	202409-33-4	WO 9803484	Antiarthritic, other	Arthritis, osteo
<b>Eto xadrol</b>		28189-85-7			
<b>Eto zollin</b>		73-09-6			
etretinate	2,4,6,8-Nonatetraenoic acid, 9-(4-methoxy-2,3,6-trimethylphenyl)-3,7-dimethyl-, ethyl ester, (all-E)- [CAS]	54350-48-0	US 4215215	Antipsoriasis	
<b>Etryptamine</b>		2235-90-7			
<b>Ethymemazine</b>		523-54-6			
<b>Eucatropine</b>		100-91-4			
<b>Eugenol</b>		97-53-0			
EUK-134	Manganese, chloro[[2,2'-(1,2-ethanediybis[(nitro-kappaN)methylidene]]bis(6-methoxyphenolato-kappaO)]], (SP-5-13)- [CAS]	81065-76-1	US 6046188	Cardiovascular	Unspecified

Table IV

API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
EUK-189					Chemotherapy-induced injury, general
Evan's Blue					
everolimus	Rapamycin, 42-O-(2-hydroxyethyl)- [CAS]	314-13-6	US 6046188	Radio/chemoprotective	
exalimide	Benzamide, 2-(hexyloxy)- [CAS]	159351-69-6	WO 9409010	Immunosuppressant	Transplant rejection, general
Exametazime	10H, 13H-Benzo[de]pyrano[3,4':6,7]indolizino[1,2-b]quinoline-10,13-dione, 1-amino-9-ethyl-5-fluoro-1,2,3,9,12,15-hexahydro-9-hydroxy-4-methyl-, (1S,9S)-, [CAS]	53370-90-4	GB 726786	Antifungal	Infection, fungal, general
exalecan	Androsta-1,4-diene-3,17-dione, 6-methylene- [CAS]	171335-80-1		Anticancer, other	Cancer, pancreatic
examestane		107868-30-4	DE 3622841	Anticancer, hormonal	Cancer, breast
Exifone		52479-85-3			
exisulind	1H-Indene-3-acetic acid 5-fluoro-2-methyl-1-(4-(methylsulfonyl)phenyl)methylene)-, (Z)- [CAS]	59973-80-7		Anticancer, other	Polyp
Exosurf®		99732-49-7			
ezetimibe	2-Azetidinone, 1-(4-fluorophenyl)-3-[(3S)-3-(4-fluorophenyl)-3-hydroxypropyl]-4-(4-hydroxyphenyl)-, (3R,4S)- [CAS]	163222-33-1	US 5846966	Hypolipaeimic/Antiatherosclerosis	Hypercholesterolaemia
Factor IX		9001-28-9			
Factor VIII		9001-27-8			
Factor XIII		9013-56-3			
fadotmidine	1H-Inden-5-ol, 2,3-dihydro-3-(1H-imidazol-4-ylmethyl)-, monohydrochloride [CAS]	189353-32-0	WO 9712874	Analgesic, other	Pain, general
Fadrozole	9,10-Secocholesta-5,7,10(19)-triene-1,3,25-triol, 26,26,26,27,27,27-hexafluoro-, (1 $\alpha$ ,3 $\alpha$ ,3 $\beta$ ,5 $\alpha$ ,7 $\alpha$ )- [CAS]	102676-47-1			
falecalcitriol	1,3-Propanediol, 2-[2-(2-amino-9H-purin-9-yl)ethyl]-, diacetate (ester)- [CAS]	83805-11-2	JP 03099022	Osteoporosis treatment	Hyperparathyroidism
famciclovir		104227-87-4	JP 61085388	Antiviral, other	Infection, gynaecological

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famotidine	Propanilindamide, 3-[[2-[(aminoininomethyl)amino]-4-thiazolyl]methyl]thio-N-(aminosulfonyl)-[CAS]	76824-35-6	US 4283408	Antiulcer	Ulcer, duodenal
fampridine	4-pyridinamine	504-24-5		Neuroprotective	Spinal cord injury
fandofloxacin	3-Quinolonecarboxylic acid, 6-fluoro-1-(5-fluoro-2-pyridinyl)-1,4-dihydro-7-(4-methyl-1-piperazinyl)-4-oxo, [CAS]	164150-85-0 164150-99-6 114432-13-2	US 5496947	Quinolone antibacterial	Infection, urinary tract
Fantofarone	(5R,6S)-6-[1(R)-Hydroxyethyl]-2-[2(R)-tetrahydrofuryl]-2-penam-3-carboxylic acid-5-methyl-2-oxo-1,3-dioxol-4-ylmethyl ester				
faropenem dextroate	4-Thia-1-azabicyclo[3.2.0]hept-2-ene-2-carboxylic acid, 6-(1-hydroxyethyl)-7-oxo-3-(tetrahydro-2-furanyl)-, [5R-]				
faropenem	{3(R*),5Alpha,6Alpha(R*)}[CAS] L-Alanine, N-[(2S)-3-(acetylthio)-2-(1,3-benzodioxol-5-ylmethyl)-1-oxopropyl]-phenylmethyl ester [CAS]	122547-49-3	EP 410727	Beta-lactam antibiotic	Infection, general
fascidolil	1H-1,4-Diazepine, hexahydro-1-(5-isoquinolinylsulfonyl)- [CAS]	135038-57-2 103745-39-7 105628-07-7 49564-56-9	EP 419327 EP 187371	Antihypertensive, renin system Neuroprotective	Hypertension, general Vasospasm, general
Fazadinium Bromide	2,4,6-(1H,3H,5H)-Pyrimidinetrione, 1-[2-[(aminocarbonyloxy)-3-butoxypropyl]-5-ethyl-5-phenyl- [CAS]	13246-02-1 3102-00-9	US 3075983	Psychostimulant	
febarbamate	5-Thiazolecarboxylic acid, 2-[3-cyano-4-(2-methylpropoxy)phenyl]-4-methyl- [CAS]	144060-53-7 123618-00-8	WO 9209279	Antigout	Hyperuricaemia
Febuprofen	1,3-Propanediol, 2-phenyl-, dicarbamate [CAS]	25451-15-4 5728-52-9	US 4888327 EP 127840	Antiepileptic Anti-inflammatory, topical	Epilepsy, general
felbamate	[1,1'-Biphenyl]-4-acetic acid [CAS]				
felbinac	3,5-Pyridinedicarboxylic acid, 4-(2,3-dichlorophenyl)-1,4-dihydro-2,6-dimethyl-, ethyl methyl ester [CAS]	72509-76-3 56-59-7	US 4264611	Antihypertensive, other	Hypertension, general
felodipine					
Felypressin					

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API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication		
Femoxetine	[1,1'-Biphenyl]-4-butanolic acid, Gamma-oxo- [CAS]	59859-58-4	US 3784701	Anti-inflammatory			
Fenbencillin		1926-48-3					
fenbuten		36330-85-5					
Fenbutrazate		4378-36-3					
Fencamfamine		1209-98-9					
Fencamine		28947-50-4					
Fenclozic Acid		17969-20-9					
Fendiline		13042-18-7					
Fendosal		53597-27-6					
Fenethylline		3736081					
Fenfluramine	458-24-2	EP 22330	Formulation, modified-release, <=24hr	Hyperlipidaemia, general			
Fenipentol	583-03-9						
fenofibrate	26129-32-8						
	49562-28-9						
fenoldopam	67227-56-9						
Fenoprofen	67227-57-0						
Fenoterol	31879-05-7						
	13392-18-2						
fenoverine	37561-27-6				FR 2092839	Antispasmodic	
Fenoxazoline	4846-91-7						
Fenoxedil	54063-40-0						
Fenozofone	15302-16-6						
Fenpentadiol	15687-18-0						
Fenpiprane	3540-95-2						
Fenpiverinium Bromide	125-60-0						
Fenproporex	15686-61-0	BE 847942	Anticancer, other	Cancer, breast			
Fenquizone	20287-37-0						
fenretinide	Retinamide, N-(4-hydroxyphenyl)- [CAS]	65646-68-6					



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API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
<b>Fenspiride</b>	Propanamide, N-phenyl-N-(1-(2-phenylethyl)-4-piperidinyl)- [CAS]	5053066		Formulation, transmucosal, systemic	Anaesthesia, adjunct
fentanyl		437-38-7			
<b>Fentiazac</b>		18046-21-4			
<b>Fenticlor</b>		97-24-5			
fenticonazole	1H-imidazole, 1-[2-(2,4-dichlorophenyl)-2-[[4-(phenylthio)phenyl]methoxy]ethyl]- [CAS]	72479-28-6	US 4221803	Antifungal	Infection, gynaecological
<b>Fentonium Bromide</b>		73151-29-8			
		5868064			
feprednol	Benzenemethanol, Alpha-[[2-hydroxy-1,1-dimethylethyl]amino]methyl-, (+/-)- [CAS]	36981-91-6		Anti-inflammatory, topical	
<b>Feprazone</b>		67704-50-1			
<b>Ferric Sodium Edetate</b>		63075-47-8			
		30748-29-9			
		15708-41-5			
ferrioxamine B			WO 9426263	Septic shock treatment	Respiratory distress syndrome, adult
<b>Ferrochollinate</b>		1336-80-7			
<b>Ferrous Gluconate</b>		299-29-6			
ferumoxytol	Polyglucose sorbitol carboxymethyl ether-coated non-stoichiometric magnetite			Imaging agent	Diagnosis, cancer
fesoterodine	2-[(1R)-3-(bis(1-methylethyl)amino)-1-phenylpropyl]-4-(hydroxymethyl)phenyl ester, (2E)-2-butenedioate (1:1) (Salt) - [CAS]	286930-03-8		Urological	Incontinence
fexofenadine	Benzenecarboxylic acid, 4-[1-hydroxy-4-[4(hydroxydiphenylmethyl)-1-piperidinyl]butyl]-Alpha,Alpha-dimethyl-, [CAS]	153439-40-8			
<b>Fibrostal</b>		83799-24-0	US 5375693	Antiallergic, non-asthma	Rhinitis, allergic, seasonal
		138452-21-8	CA 2132416	Vulnerary	Wound healing
fidarestat	Spiro(4H-1-benzopyran-4,4'-imidazolidine)-2-carboxamide, 6-fluoro-2,3-dihydro-2',5'-dioxo-, (2S-cis)-, [CAS]				
		136087-85-9	EP 418834	Symptomatic antidiabetic	Neuropathy, diabetic

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fiduxosin	8-Phenyl-3-[4-[(3aR,9bR)-1,3a,4,9b-tetrahydro-9-methoxy[1]benzopyrano[3,4-c]pyrrol-2(3H)-yl]butyl]pyrazin[2',3':4,5]thieno[3,2-d]pyrimidine-2,4(1H,3H)-dione	208993-54-8		Prostate disorders	Benign prostatic hyperplasia
finasteride	4-Azaandrosta-1-ene-17-carboxamide, N-(1,1-dimethylethyl)-3-oxo-, (5 $\alpha$ Alpha, 17 $\beta$ )-[CAS]	98319-28-7	EP 155096	Prostate disorders	Benign prostatic hyperplasia
finrozole	Benzonitrile, 4-(3-(4-fluorophenyl)-2-hydroxy-1-(1H-1,2,4-triazol-1-yl)-propyl)-[CAS]	160148-16-7 34161-24-5	EP 476944	Urological	Urinary retention
<b>Fipexide</b>	N-(4-Acetyl-1-piperazinyl)-4-fluorobenzamide monohydrate- [CAS]	133920-70-4 146426-40-6	WO 9101979	Cognition enhancer	Alzheimer's disease
<b>FK-960</b>					
<b>Flavopiridol</b>					
flavoxate	4H-1-Benzopyran-8-carboxylic acid, 3-methyl-4-oxo-2-phenyl-, 2-(1-piperidinyl)ethyl ester [CAS]	15301-69-6 3717-88-2	US 2921070	Urological	
flecainide	Benzamide, N-(2-piperidinylmethyl)-2,5-bis(2,2,2-trifluoroethoxy)-, [CAS]	54143-55-4 54143-56-5		Formulation, modified-release, <=24hr	Fibrillation, atrial
feroxacin	3-Quinolincarboxylic acid, 6,8-difluoro-1-(2-fluoroethyl)-1,4-dihydro-7-(4-methyl-1-piperazinyl)-4-oxo- [CAS]	79680-53-0 79660-72-3	US 4398029	Quinolone antibacterial	Infection, general
<b>Fiesinoxan</b>		98206-10-1			
fitbanserin	2H-Benzimidazol-2-one, 1,3-dihydro-1-(2-(4-(3-(trifluoromethyl)phenyl)-1-piperazinyl)ethyl)- [CAS]	167933-07-5		Reproductive/gonadal, general	Sexual dysfunction, female
floclofenine	Benzoic acid, 2-[[8-(trifluoromethyl)-4-quinolinyl]amino]-, 2,3-dihydroxypropyl ester [CAS]	23779-99-9	US 3644368	Anaesthetic, NSAID	
floxofenine	5-Oxa-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 7-[[[(difluoromethyl)thio]acetyl]amino]-3-[[1-(2-hydroxyethyl)-1H-tetrazol-5-yl]thio]methyl]-7-methoxy-8-oxo-, (6R-cis)-[CAS]	92823-03-5 99665-00-6	EP 128536	Cephalosporin, injectable	Infection, general
floxofenine					

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<b>Fluoropione</b>		2295-58-1			
<b>Florantyrone</b>		519-95-9			
<b>Flosequinan</b>		76568-02-0			
<b>Floxacinil</b>		5250-39-5			
<b>Floxuridine</b>		50-91-9			
<b>Fluacizine</b>		30223-48-4			
<b>Fluanisone</b>		1480-19-9			
<b>flusaterone</b>	Androst-5-en-17-one, 16-fluoro-, (16 $\alpha$ )- [CAS]	112859-71-9	EP 246650	Cardiovascular	Keratosis
<b>fluazacort</b>	5 $\beta$ H-Pregna-1,4-dienol[17,16-d]oxazole-3,20-dione, 21-(acetyloxy)-9-fluoro-11-hydroxy-2'-methyl-, (11 $\beta$ , 16 $\beta$ )- [CAS]	19888-56-3	US 3461119	Antipruritic/inflam, non-allergic	
<b>Flucloronide</b>		3693-39-8			
<b>fludoxacilin</b>		1847-24-1			
		34214-51-2		Formulation, other	Infection, general
<b>fluconazole</b>	1H-1,2,4-Triazole-1-ethanol, Alpha-(2,4-difluorophenyl)-Alpha-(1H-1,2,4-triazol-1-ylmethyl)- [CAS]	86388-73-4	EP 96569	Antifungal	Infection, dermatological
<b>Flucytosine</b>		2022-85-7			
<b>fludarabine</b>	9H-Purin-6-amine, 2-fluoro-9-(5-O-phosphono- $\beta$ -D-arabinofuranosyl)- [CAS]	75607-67-9			
<b>Fludeoxyglucose F<sup>18</sup></b>		21679-14-1	US 4357324	Anticancer, antimetabolite	Cancer, leukaemia, chronic lymphocytic
<b>Fludiazepam</b>		105851-17-0			
<b>Fludrocortisone</b>		3900-31-0			
<b>Flufenamic Acid</b>		127-31-1			
<b>Fluindione</b>		530-78-9			
		957-56-2			
<b>flumazenil</b>	4H-Imidazo[1,5-a][1,4]benzodiazepine-3-carboxylic acid, 8-fluoro-5,8-dihydro-5-methyl-6-oxo-, ethyl ester [CAS]	78755-81-4	EP 27214	Neurological	
<b>Flumecinol</b>		56430-99-0			
<b>Flumequine</b>		42835-25-6			
<b>Flumethasone</b>		2135-17-3			
<b>Flumethiazide</b>		148-56-1			

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flunarizine	Piperazine, 1-[bis(4-fluorophenyl)methyl]-4-(3-phenyl-2-propenyl)-, (E)- [CAS] Pregna-1,4-diene-3,20-dione, 6-fluoro-11,21-dihydroxy-16,17-[(1-methylethylidene)bis(oxy)]-, (6Alpha,11B,16Alpha)- [CAS] 2H-1,4-Benzodiazepin-2-one, 5-(2-fluorophenyl)-1,3-dihydro-1-methyl-7-nitro- [CAS]	30484-77-6 52468-60-7 27848-84-6	GB 1268710	Antimigraine	Rhinitis, allergic, general
flunisolide		3385-03-3	US 3124571	Antiasthma	
flunitrazepam		1622-62-4	US 3116203	Hypnotic/Sedative	
<b>Flunoxaprofen</b> <b>Fluocinolone Acetonide</b>		66834-18-7 67-73-2			
<b>Fluocinonide</b> <b>Fluocortin Butyl</b> <b>Fluocortolone</b> <b>Fluorescein</b> <b>Fluoresone</b> <b>Fluorometholone</b> <b>Fluorosalan</b>		356-12-7 41767-29-7 152-97-6 2321-07-5 2924-67-6 426-13-1 4776061			
fluorouracil	2,4(1H,3H)-Pyrimidinone, 5-fluoro- [CAS]	51-21-8		Formulation, transdermal, enhanced	Keratosi
fluoxetine	Benzazepropanamine, N-methyl-Gamma-(4-(trifluoromethyl)phenoxy)-, (+/-) [CAS]	54910-89-3 56296-78-7 76-43-7	US 4314081	Antidepressant	Depression, general
<b>Fluoxymesterone</b> <b>Flupentixol</b> <b>Fluperoxolone</b> <b>Fluphenazine</b>		2709-56-0 2119-75-7 69-23-8 33400-45-2 56995-20-1 75507-88-5 1255-35-2			
flupirtine	Carbamic acid, [2-amino-6-[(4-fluorophenyl)methyl]amino]-3-pyridinyl-, ethyl ester [CAS]		US 4481205	Analgesic, other	Pain, post-operative
<b>Fluprednidene Acetate</b> <b>Fluprednisolone</b> <b>Fluproquazone</b>		53-34-9 40507-23-1			

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<b>Flurandrenolide</b>		1524-88-5			
<b>Flurazepam</b>	[1,1'-Biphenyl]-4-acetic acid, 2-fluoro-	17617-23-1			
flurbiprofen	Alpha-methyl- [CAS]	5104-49-4	US 3793457	Anti-inflammatory	
flurithromycin	Erythromycin, 8-fluoro-mono(ethyl butanedioate) (ester)- [CAS]	82730-23-2	EP 56291	Macrolide antibiotic	Infection, respiratory tract, lower
<b>Flurogestone</b>		2529-45-5			
<b>Flurothyl</b>		333-36-8			
<b>Fluroxene</b>		406-90-6			
<b>Fluspirilene</b>		1841-19-6			
flutamide	Propanamide, 2-methyl-N-[4-nitro-3-(trifluoromethyl)phenyl]- [CAS]	13311-84-7	US 4329364	Anticancer, hormonal	
flutazolam	Oxazole[3,2-d][1,4]benzodiazepin-6(5H)-one, 10-chloro-11b-(2-fluorophenyl)-2,3,7,11b-tetrahydro-7-(2-hydroxyethyl)- [CAS]	27060-91-9	US 3905956	Anxiolytic	
fluticasone	Androsta-1,4-diene-17-carboethioic acid, 6,9-difluoro-11,17-dihydroxy-16-methyl-3-oxo-, S-(fluoromethyl) ester, (8Alpha, 11B, 16Alpha, 17Alpha)- [CAS]	80474-14-2 90566-53-3		Formulation, inhalable, solution	Asthma
flutoprazepam	2H-1,4-Benzodiazepin-2-one, 7-chloro-1-(cyclopropylmethyl)-5-(2-fluorophenyl)-1,3-dihydro- [CAS]	25967-29-7			
flutrimazole	1H-Imidazole, 1-[(2-fluorophenyl)(4-fluorophenyl)phenylmethyl]- [CAS]	119006-77-8	GB 1253368	Anxiolytic	Psychosis, general
<b>Flutropium Bromide</b>		63516-07-4	EP 352352	Antifungal	Infection, dermatological
fluvastatin	6-Heptenoic acid, 7-[3-(4-fluorophenyl)-1-(1-methylethyl)-1H-indol-2-yl]-3,5-dihydroxy-, monosodium salt, [R <sup>+</sup> , S <sup>-</sup> -(E)-]-(±)- [CAS]	93957-55-2 93957-54-1	EP 114027	Hypolipaeic/Antiatherosclerosis	Hypercholesterolaemia
fluvoxamine	1-Pentanone, 5-methoxy-1-(4-(trifluoromethyl)phenyl)-O-(2-aminoethyl)oxime, (E)- [CAS]	54739-18-3 61718-82-9			Depression, general, Obsessive-compulsive disorder
<b>Folic Acid</b>		59-30-3			
<b>Folinic Acid</b>		58-05-9			
<b>Fomepizole</b>		7554-65-6	GB 1535226	Antidepressant	

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fomivirosen <b>Fomivirosen</b>	Benzamide, N-[3-chloro-2-[[methyl(2-(4-morpholinyl)-2-oxoethyl]amino)methyl]phenyl]- [CAS]	18053-31-1 24600-36-0 144245-52-3 17692-39-6 7456-24-8	US 3661903	Respiratory stimulant	Eczema, general
Fonazoline	Alpha-D-Glucopyranoside, methyl O-2-deoxy-6-O-sulfo-2-(sulfoamino)-Alpha-D-glucopyranosyl-(1-4)-O-β-D-glucopyranuronosyl-(1-4)-O-2-deoxy-3,6-di-O-sulfo-2-(sulfoamino)-Alpha-D-glucopyranosyl-(1-4)-O-2-O-sulfo-Alpha-L-idopyranuronosyl-(1-4)-2-deoxy-2-(sulfoamino)-, 6-(hydrogen sulfate) [CAS]	104993-28-4 114870-03-0 2454117		Anticoagulant	Thrombosis, venous
fondaparinux <b>Fondaparinux</b>	Androst-4-ene-3,17-dione, 4-hydroxy- [CAS]	566-48-3 2825-60-7	EP 346953	Anticancer, hormonal	Cancer, breast
fornoterol <b>Fornoterol</b>	Fornamide, N-[2-hydroxy-5-[1-hydroxy-2-[[2-(4-methoxyphenyl)-1-methyl(ethyl)amino]ethyl]phenyl]-, (R*, R*)-(+)- [CAS]	43229-80-7 73573-87-2	GB 1415256	Anticancer	Asthma
fosamprenavir	Carbamic acid, ((1S,2R)-3-(((4-aminophenyl)sulfonyl(2-methylpropyl)amino)-1-(phenylmethyl)-2-(phosphonoxy)propyl)-C-(3S)-tetrahydro-3-furanyl ester, [CAS]	226700-81-8 34156-56-4 4428-95-9 63585-09-1 522-40-7	US 4839445	Antiviral, anti-HIV	Infection, HIV/AIDS
foscarnet <b>Foscarnet</b>	Phosphinecarboxylic acid, dihydroxy-, oxide, trisodium salt [CAS]			Antiviral, other	Infection, cytomegalovirus
fosfluconazole	2,4-difluoro-Alpha,Alpha-bis(1H-1,2,4-triazol-1-ylmethyl)benzyl alcohol, dihydrogen phosphate (ester)	194798-83-9 23155-02-4 26016-98-8	GB 1223923	Antifungal	Infection, fungal, general
fosfomycin <b>Fosfomycin</b>	Phosphonic acid, (3-methoxyranyl)-, (2R,3S)- [CAS]			Antibiotic, other	Infection, general

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fosfomycin trometamol <b>Fosfosal</b>	Phosphonic acid, (3-methoxytrany)-, (2R-cis)-, compd. with 2-amino-2-(hydroxymethyl)-1,3-propanediol (1:1)- [CAS]	78964-85-9 6064-83-1	EP 27597	Antibiotic, other	Infection, urinary tract
fosinopril	L-Proline, 4-cyclohexyl-1-[[[2-methyl-1-(1-oxopropoxy)propoxy](4-phenylbutyl)phosphiny]acetyl]-, (2Alpha,4B)- [CAS]	88889-14-9 98048-97-6	EP 63896	Antihypertensive, renin system	Hypertension, general Epilepsy, generalized, tonic-clonic
fosphenytoin	2,4-limidazolidinedione, 5,5-diphenyl-3-[[[phosphonoxy)methyl]- [CAS]	92134-98-0 93390-81-9	US 4260769	Antiepileptic	
fosfomycin	Phosphonic acid, [1-[[[2-chloroethyl]nitrosamino]carbonyl]amino]ethyl]-, diethyl ester [CAS]	92118-27-9 106560-14-9	EP 117959	Anticancer, alkylating	Cancer, melanoma
fronatriptan	1H-Carbazole-6-carboxamide, 2,3,4,9-tetrahydro-3-(methylamino)-, (R)- [CAS]	158747-02-5 57-48-7 488-69-7	WO 9922730	Antimigraine	Migraine
<b>Fructose-1,6-diphosphate</b>					
FTC	2(1H)-Pyrimidinone, 4-amino-5-fluoro-1-(2-(hydroxymethyl)-1,3-oxathiolan-5-yl)- (4R)			Antiviral, anti-HIV	Infection, HIV/AIDS
FTY-720	1,3-Propanediol, 2-amino-2-(2-(4-octylphenyl)ethyl)-, hydrochloride [CAS]	162359-56-0	WO 9408943	Immunosuppressant	Transplant rejection, general
fudosteine	Alanine, 3-((3-hydroxypropyl)thio)- [CAS]	13189-98-5	US 5047428	Antitussive	Cough
fulvestrant	Estra-1,3,5(10)-triene-3,17-diol, 7-[9-[(4,4,5,5,5-pentafluoropentyl)sulfinyl]nonyl]-, (7Alpha,17B)- [CAS]	129453-61-8	EP 346014	Anticancer, hormonal	Cancer, breast
fumagiline	2,4,6-Decaltrienedioic acid, mono[5-methoxy-4-[2-methyl-3-(3-methyl-2-butanyloxytrany]-1-oxaspiro[2.5]oct-6-yl] ester, [3R-[3Alpha,4Alpha(2R*,3R*)5B,6B(al-E)]- [CAS]	23110-15-8		Protozoacide	Infection, GI tract

Table IV

API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
<u>Fumagillin</u>		23110-15-8			
<u>Furattadone</u>		139-91-3			
<u>Furazabol</u>		1239-29-8			
<u>Furazolidone</u>		67-45-8			
<u>Furazoliium Chloride</u>		5118-17-2			
<u>Furonazide</u>		3460-67-1			
furosemide	Benzoic acid, 5-(aminosulfonyl)-4-chloro-2-[(2-furanylmethyl)amino]- [CAS]	54-31-9		Formulation, modified-release, other	Hypertension, general
<u>Fursultiamine</u>		804-30-8			
<u>Furtrethonium</u>		7618-86-2			
<u>Fusidic Acid</u>		613/6990			
G1, YM BioSciences	1-(5-bromofur-2-yl)-2-bromo-2-nitroethane		WO 9804252	Antifungal	Infection, gynaecological
G25				Antimalarial	Infection, malaria
GABA-A Alpha5 inverse agonist, Mer			WO 0206285	Cognition enhancer	Alzheimer's disease
gabapentin	Cyclohexanecarboxylic acid, 1-(aminomethyl)- [CAS]	60142-96-3	US 4152326	Antiepileptic	Epilepsy, general
gabexate	Benzoic acid, 4-[[6-[(aminomethyl)amino]-1-oxohexyloxy]-ethyl ester, monomethanesulfonate [CAS]	39492-01-8 56974-61-9	US 3751447	GI inflammatory/bowel disorders	Pancreatitis
gaboxadol	Isoxazole[5,4-c]pyridin-3(2H)-one, 4,5,6,7-tetrahydro- [CAS]	64603-91-4 127000-20-8	CA 1125288	Hypnotic/Sedative	Sleep disorder, general
<u>Gadobenate</u>					
<u>Dimethylumine</u>		138071-82-6			
<u>Gadobutrol</u>		131410-48-5			
<u>Gadodiamide</u>		80529-93-7			
<u>Gadopentetic Acid</u>		120066-54-8			
<u>Gadoteridol</u>		131069-91-5			
<u>Gadoversetamide</u>		135326-11-3			
<u>Gadoxetic Acid</u>					



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API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
galantamine	(4aS,6R,8aS)-6-Hydroxy-3-methoxy-11-methyl-5,6,9,10,11,12-hexahydro-4aH-benzofuro[3a,3,2-e,f][2]benzazepine	357-70-0		Formulation, modified-release, other	Alzheimer's disease
<b>Galanthamine</b>	L-Alanine, 2-[4-[(2,6-dideoxy-2-fluoro-Alpha-L-talopyranosyloxy)-1,2,3,4,6,11-hexahydro-2,5,12-trihydroxy-7-methoxy-6,11-dioxo-2-naphthaceny]-2-oxoethyl ester, [CAS]	140637-82-7 140637-86-1 65-29-2	EP 424899	Anticancer, antibiotic	Cancer, breast
galanubin					
<b>Gallamine Triethiodide</b>					
<b>Galllic Acid</b>	4H-Pyran-4-one, 3-hydroxy-2-methyl-, gallium complex	149-91-7			
gallium maltoate				Anticancer, other	Cancer, myeloma
gallium nitrate	Nitric acid, gallium salt [CAS]	13494-90-1	US 4529593	Osteoporosis treatment	Hypercalcaemia of malignancy
gallopamil	Benzeneacetonitrile, Alpha-[3-[2-(3,4-dimethoxyphenylethyl)methylamino]propyl]-3,4,5-trimethoxy-Alpha-(1-methylethyl)-[CAS]	16662-47-8 56-12-2 38398-32-2	GB 1367677	Antianginal	Angina, general
<b>γ-Aminobutyric Acid</b>					
<b>Ganaxolone</b>	6H-Purin-6-one, 2-amino-1,9-dihydro-9-[2-hydroxy-1-(hydroxymethyl)ethoxy]methyl-[CAS]	107910-75-8 82410-32-0	EP 49072	Antiviral, other	Infection, cytomegalovirus
ganciclovir					
ganirelix	[N-Ac-D-Nal, D-pCl-Phe, D-Pal, D-hArg(Et)2, hArg(Et)2, D-Ala]GnRH- [CAS]	124904-93-4	EP 312052	Releasing hormones	Infertility, female
gansigmine	Carbamic acid, (2-ethylphenyl)-, (3aS,8aS)-1,2,3,3a,8,8a-hexahydro-1,3a,8-trimethylpyrrolo[2,3-b]indol-5-yl ester,	223585-99-7	EP 1023297	Cognition enhancer	Alzheimer's disease

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gantofiban	1-Piperazineacetic acid, 4-[[[(5R)-3-[4-[[imino]([methoxycarbonyl]amino)methyl]phenyl]-2-oxo-5-oxazolidinyl]methyl]-ethyl]ester [CAS]	183547-57-1	EP 741133	Antithrombotic	Thrombosis, general
garenoxacin	3-Quinolonecarboxylic acid, 1-cyclopropyl-8-(difluoromethoxy)-7-[(1R)-2,3-dihydro-1-methyl-1H-isindol-5-yl]-1,4-dihydro-4-oxo-1-monomethanesulfonate [CAS]	223652-82-2		Quinolone antibacterial	Infection, respiratory tract, lower
gamocastim	5-73-macrophage inflammatory protein 2Alpha (human gene gr2)- [CAS]	246861-96-1		Radio/chemoprotective	Chemotherapy-induced injury, bone marrow, neutropenia
gatifloxacin	3-Quinolonecarboxylic acid, 1-cyclopropyl-6-fluoro-1,4-dihydro-8-methoxy-7-(3-methyl-1-piperazinyl)-4-oxo-, (+/-) [CAS]	112811-69-3	EP 230295	Quinolone antibacterial	Infection, respiratory tract, general
<b>Gefarnate</b>		51-77-4			
gefitinib	4-Quinazolinamine, N-(3-chloro-4-fluorophenyl)-7-methoxy-6-(3-(4-morpholinyl)propoxy) [CAS]	184475-35-2	WO 9633980	Anticancer, other	Cancer, lung, non-small cell
gemcabene	6,6'-oxybis(2,2-dimethylhexanoate)	209789-08-2		Hypolipidaemic/Antiatherosclerosis	Hyperlipidaemia, general
gemcitabine	Cytidine, 2'-deoxy-2', 2'-difluoro-, [CAS]	122111-03-9	GB 2136425	Anticancer, antimetabolite	Cancer, pancreatic
gemseprost	Prosta-2,13-dien-1-ic acid, 11,15-dihydroxy-16,16-dimethyl-9-oxo-, methyl ester, (2E,11A,13E,15R)- [CAS]	84318-79-2	GB 1540427	Prostaglandin	
gemfibrozil	Pentanoic acid, 5-(2,5-dimethylphenoxy)-2,2-dimethyl- [CAS]	25812-30-0	US 3674836	Hypolipidaemic/Antiatherosclerosis	Hyperlipidaemia, general
gemifloxacin	1,8-Naphthyridine-3-carboxylic acid, 7-(3-(aminomethyl)-4-(methoxymino)-1-pyrrolo[2,1-b]pyridin-5-yl)-1-cyclopropyl-6-fluoro-1,4-dihydro-4-oxo- [CAS]	175463-14-6	US 5869670	Quinolone antibacterial	Infection, respiratory tract, general
gentamicin	Gentamicin [CAS]	1403-66-3		Formulation, implant	Infection, general
<b>Gentian Violet</b>		548-62-9			
<b>Gentiopticrin</b>		20831-76-9			

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API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
Gentisic Acid		490-79-9			
Gepefrine		18840-47-6			
gepirone	2,6-Piperidinedione, 4,4-dimethyl-1-[4-(2-pyrimidinyl)-1-piperazinyl]butyl- [CAS]			Formulation, modified-release, other	Depression, general
gestodene	18,19-Dinorepregna-4,15-dien-20-yn-3-one, 13-ethyl-17-hydroxy-, (17 $\alpha$ ) [CAS]	109852-02-0 60282-87-3	GB 1569135	Formulation, fixed-dose combinations	Contraceptive, female
gestodene + ethinyloest	18,19-Dinorepregna-4,15-dien-20-yn-3-one, 13-ethyl-17-hydroxy-, (17 $\alpha$ ) [CAS] mixt with 19-Norepregna-1,3,5(10)-trien-20-yne-13,17-diol (17 $\alpha$ ) [CAS]			Formulation, modified-release, >24hr	Contraceptive, female
Gestonorone Caproate		1253-28-7			
Gestrinone		16320-04-0			
7-Hydroxybutyrate		591-81-1			
gimatecan	(4S)-11-[(E)-(1,1-dimethylethoxy)imino]methyl-4-ethyl-4-hydroxy-1-12-dihydro-14H-pyranol[3',4':6,7]indolizino[1,2-b]quinoline-3,14(4H)-dione	282618-32-7		Anticancer, other	Cancer, brain
Giractide		24870-04-0			
Gitoxin		4562-36-1			
GL-406349	N,N'-Bis[2-[N-(2-(N2,N5-dimethyl-DL-lysylamino)-ethyl]carbamoyl]1H-indol-6-yl]-1H-indole-2,5-dicarboxamide			Antifungal	Infection, fungal, general
Glafenine		3820-67-5			
glatiramer	L-Glutamic acid, polymer with L-alanine, L-lysine and L-tyrosine, [CAS]	147245-92-9 28704-27-0	WO 5800808	Multiple sclerosis treatment	Multiple sclerosis, relapsing-remitting
Glibornuride		26944-48-9			
gliclazide	Benzenesulfonamide, N-[[[hexahydrocyclopenta(cipyrrol-2(1H)-yl)amino]carbonyl]-4-methyl- [CAS]	21187-98-4	GB 1153982	Antidiabetic	Diabetes, Type II

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API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
glimepiride	1H-Pyrrole-1-carboxamide, 3-ethyl-2,5-dihydro-4-methyl-N-[2-[4-[[[4-(methoxycyclohexyl)amino]carbonyl]amino]sulfonyl]phenyl]ethyl]-2-oxo- [CAS]	93479-97-1	WO 9303724	Antidiabetic	Diabetes, Type II
<b>γ-L-inolenic Acid</b>		506-26-3			
glipizide	Pyrazinecarboxamide, N-[2-[4-[[[(cyclohexylamino)carbonyl]amino]sulfonyl]phenyl]ethyl]-5-methyl- [CAS]	29094-61-9	US 3669966	Antidiabetic	
	Benzanesulfonamide, N-[[[cyclohexylamino)carbonyl]-4-[2-(3,4-dihydro-7-methoxy-4,4-dimethyl-1,3-dioxo-2(1H)-isoquinolinyl)ethyl]- [CAS]	33342-05-1	GB 1277847	Antidiabetic	Diabetes, general
gliquidone	3-Isoxazolecarboxamide, N-[2-[4-[[[(cyclohexylamino)carbonyl]amino]sulfonyl]phenyl]ethyl]-5-methyl- [CAS]	24477-37-0		Antidiabetic	Diabetes, general
glisoxepid		25046-79-1			
Glucametacin		52443-21-7			
Glucosulfonyl		87-74-1			
Glucosulfonyl		526-95-4			
Glucosulfonyl		29031-19-4			
Glucosulfonyl		3416-24-8	DE 1953689	Antiarthritic, other	Arthritis, osteo
Glucosulfonyl		554-18-7			
glucosamine	D-Glucose, 2-amino-2-deoxy-, [CAS]				
Glucosulfone					
glutofosamide	β-D-Glucopyranose, 1-(N,N'-bis(2-chloroethyl)phosphorodiamidate)- [CAS]	132682-98-5	DE 3835772	Anticancer, alkylating	Cancer, general
Glutamic Acid		56-86-0			
Glutaraldehyde		111-30-8			
Glutethimide		77-21-4			
Glyburide		10238-21-8			
Glybutylazide		535-65-9			
Glybutazole		1492-02-0			
Glycerol		56-81-5			
Glycocyamine		352-97-6			
Glycol Salicylate		87-28-5			
Glyconiazide		3691-74-5			

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API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
Glycopyrrolate	N-acetylglucosaminyl-N-acetyluramyl dipeptide	596-51-0		Anti-infective, other	Infection, general
Glyhexamide		451-71-8			
Glymidine		339-44-6			
Glypinamide		1228-19-9			
GMDP	Luteinizing hormone-releasing factor (pig), 6-[O-(1,1-dimethylethyl)-D-serine]-10-deglycinamide, 2-(aminocarbonyl)hydrazide [CAS]	12244-57-4	US 4100274	Releasing hormones	Cancer, prostate
Gold Sodium		10233-88-2			
Thiomalate					
Gold Sodium					
Thiosulfate	L-Proline, 1-(3,3-dimethyl-1,2-dioxopentyl)-3-(3-pyridinyl)propyl ester [CAS] 2-(Phosphonomethyl)pentanedioic acid	65807-02-5	US 5672592	Antiparkinsonian Analgesic, other	Parkinson's disease Pain, neuropathic
goserelin		186452-09-5			
GPI-1485					
GPI-5693					
Graftskin	1H-Indazole-3-carboxamide, 1-methyl-N-(9-methyl-8-azabicyclo[3.3.1]non-3-yl)-, endo- [CAS]	107007-99-8	EP 200444	Antiemetic	Chemotherapy-induced nausea and vomiting
granisetron		109889-09-0			
Grepafloxacin		119914-60-2			
griseofulvin					
Gualacol	Spiro[benzofuran-2(3H),1'-[2]cyclohexane]-3,4'-dione, 7-chloro-2',4,6-trimethoxy-6-methyl-, (1'S-trans)- [CAS]	126-07-8		Formulation, dermal, topical	Infection, dermatological
Gualapate		90-05-1			
Gualazulene		852-42-6			
Gualifenesin		489-84-9			
gualimesal	4H-1,3-Benzodioxin-4-one, 2-(2-methoxyphenoxy)-2-methyl- [CAS]	93-14-1	GB 2098201	Anti-inflammatory	
Guamecycline		81674-79-5			
		16545-11-2			

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API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
Guanabenz		5051-62-7			
Guanadrel		40580-59-4			
Guanethidine		55-65-2			
Guanfacine		29110-47-2			
Guanoxabenz		24047-25-4			
Guanoxan		2165-19-7			
gugulipid	Pregna-4,17(20)-diene-3,16-dione [CAS]	95975-55-6	EP 447706	Hypolipaeimic/Antiatherosclerosis	
Gusperimus		104317-84-2			
	(Z)-2-Chlorofumaric acid 1-[3-{[6,7-dimethoxy-2(S)-methyl-1(R)-(3,4,5-trimethoxybenzyl)-1,2,3,4-tetrahydroisoquinolinium-2-yl]propyl}]			Muscle relaxant	Anaesthesia, adjunct
GW-280430A	[2S,3S,5R]-2-[3,5-difluorophenyl]-3,5-dimethyl-2-morpholinol			Anorectic/Antiobesity	Obesity
GW-320659			US 6194411	Prostate disorders	Benign prostatic hyperplasia
GYK-16084	(+)-R-2-[3-[N-(2-Benzoyl[1,4]dioxanylmethyl)amino]-1-propyl]-3(2H)-pyridazinone hydrochloride	1394-02-1			
Hachimycin		23092-17-3			
Halazepam		3093-35-4			
Halcinonide					
halobetasol	Pregna-1,4-diene-3,20-dione, 21-chloro-6,9-difluoro-11-hydroxy-16-methyl-17-(1-oxopropoxy)-, (6Alpha,11B,16B)- [CAS]	66852-54-8	US 4619921	Antipsoriasis	Psoriasis
halofantrine	9-Phenanthrenemethanol, 1,3-dichloro-Alpha-[2-(dibutylamino)ethyl]-6-(trifluoromethyl)- [CAS]	36167-63-2 69756-53-2	EP 138374	Antimalarial	Infection, malaria
halometasone	Pregna-1,4-diene-3,20-dione, 2-chloro-6,9-difluoro-11,17,21-trihydroxy-16-methyl-, (6Alpha,11B,16Alpha)- [CAS]	50629-82-8	US 4076737	Antipruritic/Inflamm, allergic	
Haloperidol		52-86-8			
Halopredone		57781-14-3			

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API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
Haloproglin	2(R)-Acetamido-N-benzyl-3-methoxypropionamide	777-11-7	WO 9733861	Antiepileptic	Epilepsy, general
Halopropane		679-84-5			
Halothane		151-67-7			
Haloxazolam		59128-97-1			
harkoside	16Alpha-Bromo-3β-hydroxy-5Alpha-androstane-17-one		WO 9714376	Antiviral, anti-HIV Musculoskeletal	Infection, HIV/AIDS Regeneration, bone
HE-2000					
Healos					
Hematoporphyrin		14459-29-1			
Hepronicate		7237-81-2			
Heptabarbital		509-86-4			
Heptaminol		372-66-7			
Hetacillin		3511-16-8			
Hetastarch		9004-62-0			
Hexachlorophene		70-30-4			
Hexadimethrine		28728-55-4			
Bromide		317-52-2			
Hexafluorenum					
Bromide		60-26-4			
Hexamethonium		3811-75-4			
Hexamidine		358-52-1			
Hexapropymate		5980-31-4			
Hexedine		84-16-2			
Hexestrol		2691-45-4			
Hexestrol Bis(β-diethylaminoethyl ether)					
Hexethal		144-00-3			
Hexetidine		141-94-6			
Hexobarbital		56-29-1			

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API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
Hexobendine		54-03-5			
Hexocyclium Methyl Sulfate		115-63-9			
Hexoprenaline		3215-70-1			
Hexend	Hexend [CAS]	235746-51-7	US	Plasma substitute	Surgery adjunct
Hexylcaline		532-76-3			
HF-0299	11b-hydroxy androstenedione			Osteoporosis treatment	Osteoporosis
	Benzeneacetic acid, 4-[2-hydroxy-3-[(1-methylethyl)amino]propoxy]-, 2-tricyclo[3.3.1.1 <sup>3,7</sup> deco-1-yl]ethyl ester, (2Z)-2-butenedioate (1:1) (salt) [CAS]	121009-31-2		Antiglaucoma	Glaucoma
HGP-2					
HGP-6 <sup>a</sup>	8-Azoniabicyclo[3.2.1]octane, 3-(3-ethoxy-1,3-dioxo-2-phenylpropoxy)-8,8-dimethyl-, (3-endo)-, methyl sulfate [CAS]	113932-41-5		Antiepileptic	Epilepsy, general
Hydrosmim	Hydrosmim- [CAS]	120250-44-4		Vasoprotective, systemic	
histamine	histamine	51-45-8	EP	Anticancer, immunological	Cancer, melanoma
Histapyrrodine		493-80-1			
	Luteinizing hormone-releasing factor (pig), 6-[1-(phenylmethyl)-D-histidine]-9-(N-ethyl-L-prolinamide)-10-deglycinamide- [CAS]	76712-82-8	EP	Releasing hormones	Precocious puberty
histrelin				Osteoporosis treatment	Osteoporosis
HIM-101	HIM 101 [CAS]	217311-70-1			
	(E)-4-[2-[2-(p-methoxybenzenesulfonamide)-phenyl]ethenyl]pyridine-1-oxide				
HMIN-214		87-00-3			
Homatropine		535-86-4			
Homocamfin		848-53-3		Anticancer, other	Cancer, general
Homochlorcyclizine		18679-90-8			
Hopantenic Acid					
HP-228	Glycinamide, N-acetyl-L-norleucyl-L-glutamyl-L-histidyl-D-phenylalanyl-L-arginyl-D-tryptophyl- [CAS]	172617-89-9	EP	Analgesic, other	Pain, post-operative



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API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
<b>Hyperzine A</b>		102518-79-6			
hyaluronan	hyaluronic acid [CAS]	9004-61-9		Formulation, other	Restenosis
<b>Hycanthone</b>		3105-97-3			
<b>Hydnocarpic Acid</b>		459-67-6			
<b>Hydralazine</b>		86-54-4			
<b>Hydrastine</b>		118-08-1			
<b>Hydrastinine</b>		6592-85-4			
<b>Hydrochlorothiazide</b>		58-93-5			
hydrocodone	Morphinan-6-one, 4,5-epoxy-3-hydroxy-17-methyl-, (5Alpha)- [CAS]	456-99-9			
		125-29-1			
<b>Hydrocortamate</b>		76-47-1			
hydrocortisone	Pregn-4-ene-3,20-dione, 21-(acetyloxy)-11-hydroxy-17-(1-oxopropoxy)-, (11B)-[CAS]	74050-20-7	DE 2826257	Formulation, modified-release, other	Pain, general
		50-23-7		Dermatological	Unspecified
hydrocortisone butyrate propio	Pregn-4-ene-3,20-dione, 11-hydroxy-17-(1-oxobutoxy)-21-(1-oxopropoxy)-, (11B)-[CAS]	72590-77-3	DE 2910899	Antipruritic/inflamm, allergic	
<b>Hydroflumethiazide</b>		135-09-1			
hydromorphone	Morphinan-6-one, 4,5-epoxy-3-hydroxy-17-methyl-, (5Alpha)-, mixt with acetamide, N-(4-hydroxyphenyl)-, mixt with morphinan-6-one, 17-(cyclopropylmethyl)-4,5-epoxy-3,14-dihydroxy-, (5Alpha)-	103-90-2			
		16590-41-3			
		466-99-9			
<b>Hydroquinidine</b>		1435-55-8			
<b>Hydroquinine</b>		522-66-7			
		123-31-9			
<b>Hydroquinone</b>		13422-51-0			
<b>Hydroxocobalamin</b>		1518-86-1			
<b>Hydroxyamphetamine</b>		118-42-3			
<b>Hydroxychloroquine</b>		53-10-1			
<b>Hydroxydione</b>		468-56-4			
<b>Hydroxyethidine</b>		50-19-1			
<b>Hydroxyphenamate</b>				Formulation, fixed-dose combinations	Pain, general

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API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
Hydroxypropyl Cellulose		9004-64-2			
Hydroxystilbamidine		495-99-8			
Hydroxytetracline		490-98-2			
Hydroxyzine		68-88-2			
Hylan G-F 20					
Hymecromone		90-33-5			
hyoscyanine	benzeneacetic acid, Alpha(hydroxymethyl)-, 8-methyl-8-azabicyclo [3.2.1]oct-3-yl ester, [3(S)-endo],				
hypericin	Phenanthro[1,10,9,8-opqrs]perylene-7,14-dione, 1,3,4,6,8,13-hexahydroxy-10,11-dimethyl- [CAS]	101-31-5		Formulation, oral, orally-disintegrating	Ulcer, GI, general
IACFT		548-04-9		Anticancer, other	Cancer, brain
ibandronic acid	Phosphonic acid, [1-hydroxy-3-(methylpentylamino)propylidene] bis- [CAS]	180468-34-2	EP	Osteoporosis treatment	Hypercalcaemia of malignancy
ibopamine	Propanoic acid, 2-methyl-, 4-[2-(methylamino)ethyl]-1,2-phenylene ester- [CAS]	114084-78-5	GB	Cardio stimulant	Heart failure
ibopamine	Propanoic acid, 2-methyl-, 4-[2-(methylamino)ethyl]-1,2-phenylene ester- [CAS]	66195-31-1		Formulation, mucosal, topical	Surgery adjunct
Ibifitumomab		206181-63-7			
ibuprofen	Phosphonic acid, [[4-[(4-bromo-2-cyanophenyl)amino]carbonyl]phenyl]methyl-, diethyl ester [CAS]	133208-93-2	EP	Hypolipaeamic/Antiatherosclerosis	Hypertriglyceridaemia
ibudilast	1-Propanone, 2-methyl-1-[2-(1-methyl-ethyl)pyrazolo[1,5-e]pyridin-3-yl]- [CAS]	50847-11-5	EP	Antiasthma	Asthma
Ibufenac		1553-60-2			
ibuprofen piconol	Benzenecarboxylic acid, Alpha-methyl-4-(2-methylpropyl)-, 2-pyridinylmethyl ester [CAS]	64622-45-3	DE	Antiinflammatory/inflamm, non-allergic	Eczema, contact

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API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
Ibuprofen	Benzeneacetic acid, Alpha-methyl-4-(2-methylpropyl)- [CAS]	15687-27-1		Formulation, modified-release, other	Inflammation, general
Ibuproxam		53648-05-8			
Ibutide	Methanesulfonamide, N-[4-(ethylheptylamino)-1-hydroxybutyl]phenyl]-, (+)-, [CAS]	122647-31-8 122647-32-9	JP 60239458	Antiarrhythmic	Fibrillation, atrial
IC <sub>A</sub> -17043			US 6288122	Antisickling	Anaemia, sickle cell
Icodextrin	Dextrin- [CAS]	9004-53-9		Urological	Renal failure
Idarubicin	5,12-Naphthacenedione, 9-acetyl-7-[(3-amino-2,3,6-trideoxy-Alpha-L-xyo-hexopyranosyl)oxy]-7,8,9,10-tetrahydro-6,9,11-trihydroxy-, (7S-cis)- [CAS]	58857-92-9 86189-66-4	US 4471052	Anticancer, antibiotic	Cancer, leukaemia, acute lymphocytic
Idazoxan	2-(2,3-dihydro-2-(4-hydroxy-3-methoxyphenyl)-3-(hydroxymethyl)-1,4-benzodioxin-6-yl)-2,3-dihydro-3,5,7-trihydroxy-4H-1-benzopyran-4-one phosphatidylcholine complex	79944-58-4			
IdB-1016	2,5-Cyclohexadiene-1,4-dione, 2-(10-hydroxydecyl)-5,6-dimethoxy-3-methyl- [CAS]	134499-06-2	EP 209038	Anticancer, hormonal	Cancer, ovarian
Idobenone	4-Hexenoic acid, 3-[[[(1,1-dimethylethoxy)carbonyl]amino]-2-hydroxy-5-methyl-, (3aS,4R,7R,8aS,9S,10aR,12aS,12bR,13S,13aS)-7,12a-bis(acyloxy)-13-(benzoyloxy)-3a,4,7,8,8a,9,10,12,12a,12b,13-dodecahydro-9-hydroxy-5,8a,14,14-tetramethyl-2,8-dioxo-6,13a-methano-13aH-oxolo [2",3":5',6'] benzo[1,2,4,5]cyclohexa [1,2-d] dioxyl-4-yl ester, 2R,3S) [CAS]	58186-27-9	EP 58057	Neuroprotective	Ischaemia, cerebral
IDN-5109		186348-05-0	US 5264591	Anticancer, other	Cancer, colorectal
Idoxifene		116057-75-1			

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API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
idaraparin	Alpha-D-Glucopyranoside, methyl O-2,3,4-tri-O-methyl-6-O-sulfo-Alpha-D-glucopyranosyl-(1-4)-O-2,3-di-O-methyl-6-D-glucopyranuronosyl-(1-4)-O-2,3,6-tri-O-sulfo-Alpha-D-glucopyranosyl-(1-4)-O-2,3-di-O-methyl-Alpha-L-idopyranuronosyl-(1-4)-, tris(hydrogen sulfate) nonasodium salt [CAS]	149920-56-9	AU 698456	Antithrombotic	Thrombosis, venous
idrociamide	2-Propenamide, N-(2-hydroxyethyl)-3-phenyl- [CAS]	6961-46-2	US 3659014	Anti-inflammatory, topical	
ifenprodil	(7)-2-(4-benzyl piperidino)-1-p-hydroxyphenylpropanol tartrate	23210-58-4 23210-56-2	US 3509164	Neuroprotective	
ifosfamide	2H-1,3,2-Oxazaphosphorin-2-amine, N,3-bis(2-chloroethyl)tetrahydro-2-oxide [CAS]	3778-73-2	US 3732340	Anticancer, alkylating	Cancer, lung, general
iguratimod	N-[3-(Formylamino)-4-oxo-6-phenoxy-4H-chromen-7-yl] methanesulfonamide	123663-49-0	DE 3834204	Antiarthritic, other	Arthritis, rheumatoid
iloprazole	1H-Benzimidazole, 2-(((4-methoxy-3-methyl-2-pyridinyl) methyl)sulfinyl)-5-(1H-pyrrol-1-yl)- [CAS]	172152-36-2	US 5703097	Antiulcer	Ulcer, GI, general
ilomastat	Butanediamide, N4-hydroxy-N1-(1-(1H-indol-3-ylmethyl)-2-(methylamino)-2-oxoethyl)-2-(2-methylpropyl)-, (S-(R*, S*))-[CAS]	142880-36-2	US 5892112	COPD treatment	Emphysema, smoking-related
iloperidone	Ethanone, 1-[4-[3-(4-(6-fluoro-1,2-benzisoxazol-3-yl)-1-piperidinyl]propoxy]-3-methoxyphenyl]- [CAS]	133454-47-4	US 5776963	Neuroleptic	Schizophrenia
iloprost trometamol	Pentanoic acid, 5-[hexahydro-5-hydroxy-4-(3-hydroxy-4-methyl-1-octen-6-ynyl)-2(1H)-pentalenylidene]- [CAS]	78919-13-8	DE 3417638	Prostaglandin	Peripheral vascular disease
ILX23-7553	1Alpha,25-Hydroxy-16-yne vitamin D3			Anticancer, other	Cancer, general

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Imatinib	4-((Methyl-1-piperazinyl)methyl)-N-(4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]-phenyl]benzamide methanesulfonate	152459-95-5	US 5621184	Anticancer, other	Cancer, leukaemia, chronic myelogenous
Imidapril	4-Imidazolidinecarboxylic acid, 3-[2-[[1-(ethoxycarbonyl)-3-phenylpropyl]amino]-1-oxopropyl]-1-methyl-2-oxo-, [4S-[3(R*(R*))],4R*]- [CAS]	89371-37-9 89396-94-1	EP 95163	Antihypertensive, renin system, Musculoskeletal	Hypertension, general, Cachexia
Imidazole salicylate	Benzoic acid, 2-hydroxy-, compd. with 1H-imidazole (1:1) [CAS]	36364-49-5	US 4329340	Anti-inflammatory	Pain, general
Imipenem	1-Azabicyclo[3.2.0]hept-2-ene-2-carboxylic acid, 6-(1-hydroxyethyl)-3-[[2-[[[iminomethyl]amino]ethyl]thio]-7-oxo-, [5R, [5Alpha, 6Alpha(R*)]]]- [CAS]	64221-86-9 74431-23-5 81129-83-1	GB 1570990	Beta-lactam antibiotic	Infection, general
Imipramine	1H-Imidazo[4,5-c]quinolin-4-amine, 1-(2-methylpropyl)- [CAS]	50-49-7 6829-98-7	EP 145340	Antiviral, other	Infection, human papilloma virus
Imolamine	Benzeneacetamide, Alpha-cyclopentyl-4-((2,4-dimethyl-9H-pyrido[2,3-b]indol-9-yl)methyl)-N-((1R)-2-hydroxy-1-phenylethyl)- (Alphas)- [CAS]	99011-02-6 318-23-0	EP 705831	Hypolipaeic/Antiatherosclerosis	Atherosclerosis
Implipitide	Phosphonic acid, [[[(cycloheptylamino)methylene]bis-, [CAS]	177469-96-4 13425-98-4 99323-21-4	EP 1203691	Musculoskeletal	Hypercalcaemia of malignancy
Incadronate	4-chloro-N-(2-methylindolin-1-yl)-3-sulfamoylbenzamide	138330-18-4 124351-85-5 63758-79-2 40507-78-6	GB 1203691	Antihypertensive, diuretic	Hypertension, general
Indacronic Acid		26807-65-8 74517-78-5			
Indalpine					
Indanazoline					
Indapamide					
Indecalcide					

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API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
indoloxazine	Morpholine, 2-[(1H-inden-7-yloxy)methyl]- [CAS]	60929-23-9 65043-22-3	JP 52083773	Cognition enhancer	Alzheimer's disease
Indeloxazine		65043-22-3 30180-87-5			
indenolol	2-Propanol, 1-(1H-inden-4-(or 7)-yloxy)-3-[(1-methylethyl)amino]- [CAS]	60607-68-3 68906-88-7	GB 1290343	Antihypertensive, adrenergic	
indinavir	D-erythro-Pentonamide, 2,3,5-trideoxy-N-(2,3-dihydro-2-hydroxy-1H-inden-1-yl)-5-(2-(((1,1-dimethylethyl)amino)carbonyl)-4-(3-pyridinylmethoxy)-1-piperazinyl)-2-(phenylmethyl), [1S-(1Alpha(R),2Alpha)], [CAS]	150378-17-9 157810-81-6	EP 0541168	Antiviral, anti-HIV	Infection, HIV/AIDS
indiplon	Acetamide, N-methyl-N-(3-(2-thienylcarbonyl)pyrazolo(1,5-a) pyrimidin-7-yl)phenyl)- [CAS]	325715-02-4	US 6399621	Hypnotic/Sedative	Insomnia
indisatron	1H-Indazole-3-carboxamide, N-(3,9-dimethyl-3,9-diazabicyclo(3.3.1)non-7-yl)-, diendo- [CAS]	160472-97-9		Antiemetic	Nausea and vomiting, general
indisulam	1,4-Benzenedisulfonamide, N-(3-chloro-1H-indol-7-yl)- [CAS]	165668-41-7		Anticancer, other	Cancer, lung, non-small cell
Indobufen		63610-08-2			
Indocyanine Green		3599-32-4			
indometacin	1H-Indole-3-acetic acid, 1-(4-chlorobenzoyl)-5-methoxy-2-methyl- [CAS]	53-86-1		Formulation, modified-release, other	Inflammation, general
Indoprofen		31842-01-0			
indoramin	Benzamide, N-[1-[2-(1H-indol-3-yl)ethyl]-4-piperidinyl]- [CAS]	38821-52-2	GB 1218570	Antihypertensive, adrenergic	
Inducterm		170277-31-3	US 5993810	Labour inducer	Labour, induction
Infliximab		36703-88-5			
Inosine Pranobex		87-89-8			
Inositol		6556112			
Inositol Niacinate		80663-95-2			
Iobenguane		3115057			
Iobenzamic Acid					



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loxilan [P-751]	(3R,4R)-(delta)-THC-DMH-11-oic acid	107793-72-6	WO 9401429	Analgasic, other	Pain, neuropathic
ipidacrine	Stigmasian-15-one, 22,29-epoxy-3,4,6,7,29-pentahydroxy-, (3Alpha,4B,5Alpha,6Alpha,7B,14B,22S)- [CAS]	62732-44-9			
IPL-576092		137571-30-3	US 6046185	Antiasthma	Asthma
ipodate		5587-89-3			
ipratropium bromide		68985-17-9			
		22254-24-6		Formulation, inhalable, solution	Chronic obstructive pulmonary disease
ipratropium	(endo, syn)-(s)-3-(3-Hydroxy-1-oxo-2-phenylpropoxy)-8-methyl-8-(1-methylethyl)-8-azoniabicyclo[3.2.1]octane				
ipratropium	Hydrazinecarboxamide, 2-(1,2,3,6-tetrahydro-3-hydroxy-1-(1-methylethyl)-6-oxo-5H-indol-5-ylidene)- [CAS]	7248-21-7		Formulation, inhalable, topical	Asthma
iprazochrome	4H-1-Benzopyran-4-one, 7-(1-methylethoxy)-3-phenyl- [CAS]	35212-22-7	EP 214847	Osteoporosis treatment	Osteoporosis
ipriflavone		5560-72-5			
iprindole		3544-35-2			
iproclozide		54-92-2			
iproniazid		95847-70-4			
ipsapirone	2-n-butyl-4-spirocyclopentane-1-(((2'-tetrazol-5-yl)biphenyl-4-yl)methyl)-2-imidazolin-5-one				
irbesartan	Butanedioic acid, mono[2-(2-(acetylthio)ethyl)-2,3-dihydro-4,6,7-trimethyl-5-benzofuranyl] ester, (+/-) [CAS]	138402-11-6	WO 9114679	Antihypertensive, renin system	Hypertension, general
IRFI-042	N-Cyclopentyl-1-methylimidazo[1,2-a]quinolin-4-amine	134867-62-2	US 5114966	Cardiovascular	Atherosclerosis
IRFI-165		191349-26-5	EP 865442	Antidepressant	Depression, general
iridomyrmecin		485-43-8			



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irindalone	1-[2-{4-[3-(4-fluorophenyl)-2,3-dihydro-1H-inden-1-yl]-1-piperazinyl}ethyl]- (1R-trans)- [CAS]	104113-57-7 96478-43-2	EP 183349	Antidepressant	Depression, general
irinotecan	Spiro[cyclopropane-1,5'-[5H]inden]-7'(6H)-one, 6'-hydroxy-2',4',6'-trimethyl-, (R)- [CAS]	97682-44-5			
irinulven		125392-76-9	US 5563176	Anticancer, other	Cancer, prostate
Iron Sorbitex		1338-16-5			
irrogladine	1,3,5-Triazine-2,4-diamine, 6-(2,5-dichlorophenyl)- [CAS]	57381-26-7 57381-28-9 57381-33-6	US 4857907	Antihypertensive, diuretic	Hypertension, general
IS-741	Cyclohexanecarboxamide, N-[2-[(ethylsulfonyl)amino]-5-(trifluoromethyl)-3-pyridinyl]- [CAS]	141283-87-6	EP 465913	GI inflammatory/bowel disorders	Pancreatitis
isaglitazone	2,4-Thiazolidinedione, 5-[[6-[(2-fluorophenyl)methoxy]-2-naphthalenyl]methyl]-[CAS]	161600-01-7	US 5594016 NZ 502362	Antidiabetic Immunosuppressant	Diabetes, Type II Transplant rejection, general
isabogrel		89667-40-3			
isepamicin	D-Streptamine, O-6-amino-6-deoxy-Alpha-D-glucopyranosyl-(1-4)-O-[3-deoxy-4-C-methyl-3-(methylamino)-D-L-arabinopyranosyl-(1-6)]-N1-(3-amino-2-hydroxy-1-oxopropyl)-2-deoxy-, (S)- [CAS]	58152-01-5 58152-03-7	US 4029882	Aminoglycoside antibiotic	Infection, dermatological
isocaminile		77-51-0			
isobutyl p-		94-14-4			
Aminobenzoate		59-63-2			
isocartboxazid		24168-96-5			
isocanazole	1-[2-(2,6-dichlorobenzoyloxy)-2-(2,4-dichlorophenyl)ethyl]	27523-40-6	GB 1244530	Antifungal	Infection, fungal, general
isoeutharine		530-08-5			

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isoflurothepin	1-Piperazineethanol, 4-[3-fluoro-10,11-dihydro-8-(1-methylthyl)dibenzo[b,f]thiepin-10-yl]-[CAS]	106819-39-0 106819-41-4 70931-18-9	GB 2010843	Neuroleptic	
isoflurane	Ethane, 2-chloro-2-(difluoromethoxy)-1,1,1-trifluoro- [CAS]	26675-46-7	US 3535388	Anaesthetic, inhalation	Anaesthesia
isofluorophate		55-91-4			
isoladol		530-34-7			
isomethadone		466-40-0			
isomethheptene		503-01-5			
isoniazid		54-85-3			
isonixin		57021-61-1			
isopromethazine		303-14-0			
isopropamide iodide		71-81-8			
isopropyl Alcohol		67-63-0			
isopropyl unoprostone	5-Heptenoic acid, 7-(3,5-dihydroxy-2-(3-oxodecyl)cyclopentyl)-, 1-methylthylester, (1R-(1Alpha(Z), 2R,3Alpha,5Alpha))- [CAS]	120373-24-2	EP 289349	Prostaglandin	Glaucoma
isoproterenol		7683-59-2			
isosorbide		1552-67-5			
isosorbide dinitrate	D-Glucitol, 1,4:3,6-dianhydro-, dinitrate [CAS]	87-33-2		Formulation, modified-release, other	Angina, general
isosorbide mononitrate	D-Glucitol, 1,4:3,6-dianhydro-, 5-nitrate [CAS]	16051-77-7		Formulation, modified-release, other	Angina, general
isothipendyl		482-15-5			
isotretinoin	Retinoic acid, 13-cis- [CAS]	4759-48-2	US 4843096	Antiacne	Acne
isovaleryl Diethylamide		533-32-4			
isoxepac		55453-87-7			
isoxicam		34552-84-6			
isoxsuprine		395-28-8			

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isradipine	3,5-Pyridinedicarboxylic acid, 4-(4-benzofurazanyl)-1,4-dihydro-2,6-dimethyl-1-methylethyl ester [CAS]	75695-93-1	GB 2037766	Antihypertensive, other	Hypertension, general
israpafant	6H-Thieno[3,2-f][1,2,4]triazolo[4,3-a][1,4]diazepine, 4-(2-chlorophenyl)-6,9-dimethyl-2-[2-(4-(2-methylpropyl)phenyl)ethyl]-[CAS]	117279-73-9	EP 268242 US 5447926	Antiasthma Formulation, mucosal, topical	Asthma Conjunctivitis
Itasetron	ITF 282 [CAS]	123258-84-4 93615-44-2	GB 2115821	Antianaemic	Anaemia, general
itopride	Benzamide, N-[[4-[2-(dimethylamino)ethoxy]phenyl]methyl]-3,4-dimethoxy-, monohydrochloride [CAS]	122892-31-3	EP 306827	Gastroprokinetic	Gastritis
itraconazole	3H-1,2,4-Triazol-3-one, 4-[4-(4-[2-(2,4-dichlorophenyl)-2-(1H-1,2,4-triazol-1-yl)methyl]-1,3-dioxolan-4-yl)methoxy]phenyl]-1-piperazinylphenyl]-2,4-dihydro-2-(1-methylpropyl)- [CAS]	84625-61-6 13445-63-1	EP 6711	Antifungal	Infection, fungal, general
itraglumide	1-Naphthalenepropanoic acid, 6-[2-[2-(8-azaspiro[4.5]deco-8-ylcarbonyl)-4,6-dimethylphenyl]amino]-2-oxoethyl]-, (3R)-[CAS]	201605-51-8	WO 9800404	Anxiolytic	Anxiety, general
itrelax	D-Alaninamide N-acetyl-3-(2-naphthalenyl)-D-alanyl-4-chloro-D-phenylalanyl-3-(3-pyridinyl)-D-alanyl-L-seryl-N6-(3-pyridinylcarbonyl)-L-lysyl-N6-(3-pyridinylcarbonyl)-D-lysyl-L-leucyl-N5-(1-methyl-2-oxoethyl)-L-lysyl-L-prolyl- [CAS]	112568-12-4	WO 8901944	Fertility enhancer	Infertility, female
ivabradine	7,8-dimethoxy-3-(3-[[[(1S)-(4,5-dimethoxybenzocyclobutan-1-yl)methyl]methylamino]propyl]-1,3,4,5-tetrahydro-2H-benzazepin-2-one			Antianginal	Angina, general

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icabepilone	17-Oxa-4-azabicyclo(14.1.0)heptadecane-5,9-dione, 7,11-dihydroxy-8,10,12,16-pentamethyl-3-(1-methyl-2-(2-methyl-4-thiazolyl)ethenyl, (1R,3S,7S,10R,11S,12S,16R) [CAS]	219989-84-1		Anticancer, other	Cancer, breast
J-104132	5H-Cyclopenta[b]pyridine-6-carboxylic acid, 5-(1-(3-benzodioxol-5-yl)-2-butyl-7-[2]-(2S)-2-carboxypropyl)-4-methoxyphenyl)-6,7-dihydro-, (5S,6R,7R)- [CAS]	198279-45-7	WO 9737665	Antihypertensive, other	Heart failure
J-107088	5H-Indolo(2,3-a)pyrrolo(3,4-c)carbazole-5,7(6H)-dione, 12-G-D-glucopyranosyl-12,13-dihydro-2,10-dihydroxy-6-((2-hydroxy-1-(hydroxymethyl)ethyl)amino)- [CAS]	174402-32-5		Anticancer, other	Cancer, bladder
J-113397	1-((3R,4R)-1-Cyclooctylmethyl-3-hydroxymethyl-4-piperidyl)-3-ethyl-1,3-dihydro-2H-benzimidazole-2-one				
Janex-1	Phenel, 4-((6,7-dimethoxy-4-quinazolinyl)amino) [CAS]	202475-60-3		Analgesic, other	Pain, general
joramycin	Leucomycin V, 3-acetate 4B-(3-methylbutanoate) [CAS]	16846-24-5	JP 41021759	Anticancer, other	Cancer, leukaemia, general
JTV-519	1,4-Benzothiazepine, 2,3,4,5-tetrahydro-7-methoxy-4-[1-oxo-3-[4-(phenylmethyl)-1-piperidinyl]propyl]- [CAS]	145903-06-6		Macrolide antibiotic	Infection, general
K-777					
Kalnic Acid		487-79-6		Cardiovascular	Infarction, myocardial
Kalimate	Kalimate- [CAS]	92354-70-6	WO 9212148	Protozoacide	Infection, trypanosomiasis, American
Kallidin		342-10-9	US 6287840	Urological	
KB-130015	Acetic acid (2,6-dihydro-4-((2-methyl-3-benzofuran-2-yl)methyl)phenoxy)- [CAS]	147030-48-6		Antiarrhythmic	Arrhythmia, general

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KCB-328	Methanesulfonamide, N-[3-amino-4-[2-[(3,4-dimethoxyphenyl)ethyl]methylamino]ethoxyphenyl]-, monohydrochloride [CAS]	177596-55-3	WO 9604231	Antiarrhythmic	Arrhythmia, general
<b>Kebuzone</b>		853-34-9			
ketamine	2-(2-Chlorophenyl)-2-(methylamino)-cyclohexanone hydrochloride	6740-88-1		Formulation, transmucosal, nasal	Pain, post-operative
ketanserin	2,4-(1H,3H)-Quinazolinone, 3-[2-(4-(4-fluorobenzoyl)-1-piperidinylethyl)]-[CAS]	74050-99-9 83846-83-7	EP 13612	Antihypertensive, other	Hypertension, general
ketazolam	4H-(1,3)Oxazino[3,2-d][1,4]benzodiazepine-4,7(6H)-dione, 11-chloro-8,12b-dihydro-2,8-dimethyl-12b-phenyl- [CAS]	27223-35-4	GB 1222294	Anxiolytic	
<b>Kethoxal</b>		27762-78-3			
<b>Ketobemidone</b>		469-79-4			
ketocconazole	Piperazine, 1-acetyl-4-[4-[2-(2,4-dichlorophenyl)-2-(1H-imidazol-1-ylmethyl)-1,3-dioxolan-4-yl]methoxy]phenyl], cis-[CAS]	65277-42-1	US 4335125	Antifungal	Infection, fungal, general
ketoprofen	mono(3-benzoyl- $\alpha$ -methylbenzeneacetate) [CAS]	173011-11-5	EP 502502	Formulation, transdermal, systemic	Pain, general
ketorolac	1H-Pyrrolizine-1-carboxylic acid, 5-benzoyl-2,3-dihydro-, (+/-) [CAS]	74103-08-3 74103-07-4	EP 53021	Analgesic, NSAID	
<b>Ketorolac Tromethamine</b>					
ketotifen	10-H-Benzof[4,5]cyclohepta[1,2-b]thiophen-10-one, 4,9-dihydro-4-(1-methyl-4-piperidinylidene)-, (E)-2-butenedioate (1:1) [CAS]	34580-13-7 34580-14-8	GB 1355539	Antialsthma	Asthma
<b>Khellin</b>		82-02-0			
kineth		9001-29-0		Dermatological	Photodamage

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KNI-272	4-Thiazolidinecarboxamide, N-(1,1-dimethylethyl)-3-[2-hydroxy-3-[(2-[(5-isquinolinyl)oxy]acetyl)amino]-3-(methylthio)-1-oxopropyl]amino]-1-oxo-4-phenylbutyl-, [4R-(3[2S*,3S*(R*),4R*)]-[CAS]	147318-81-8	US 5644028	Antiviral, anti-HIV	Infection, HIV/AIDS
KP-103	(R,R)-2-(2,4-Difluorophenyl)-3-(4-methylenepiperidin-1-yl)-1-(1,2,4-triazol-1-yl)-2-butanol				
KP-157			US 6110961	Antifungal	Infection, general
KP-544			WO 9919305	Antidepressant Cognition enhancer	Depression, general Unspecified
KRIN-5500	L-glycero-β-L-manno-Heptopyranosylamine, 4-deoxy-4-[[[(2E,4E)-1-oxo-2,4-tetradecadienyl]amino]acetyl]amino]-N-1H-purin-6-yl- [CAS]	151276-95-8	WO 9015811	Anticancer, antibiotic	Cancer, colorectal
KT-136	Alpha-D-Glucopyranoside, β-D-fructofuranosyl, mibd. with 1-ethenyl-2-pyrrolidinone homopolymer compd. with iodine [CAS]	121602-88-8		Formulation, dermal, topical	Ulcer, decubitus
KUL-7211	(-)-2-[(2S)-1,2,3,4-tetrahydro-2-[[[(2R)-2-hydroxy-2-(4-hydroxyphenyl)ethyl]amino]naphthalen-7-yloxy]-N,N-dimethylacetamide hydrochloride monohydrate				
KW-2170	6H-Pyrazolo[4,5,1-de]acridin-6-one, 5-[(3-aminopropyl)amino]-7,10-dihydroxy-2-[[[2-hydroxyethyl]amino]methyl]-, dihydrochloride [CAS]	207862-44-0		Urological	Urinary calculus
KW-6002	1H-Purine-2,8-dione, 8-(2-{3,4-dimethoxyphenyl}ethenyl)-1,3-diethyl-3,7-dihydro-7-methyl-, (E)- [CAS]	155270-99-8		Anticancer, alkylating Antiparkinsonian	Cancer, lung, non-small cell Parkinson's disease
KW-7158	3,3,3-Trifluoro-2-hydroxy-2-methyl-N-(10-oxo-4,10-dihydrothieno[3,2-C][1]benzothiepin-8-yl)propanamide 5,5 dioxide			Urological	Incontinence

Table IV

API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
L-365260	Urea, N-(2,3-dihydro-1-methyl-2-oxo-5-phenyl-1H-1,4-benzodiazepin-3-yl)-N'-(3-methylphenyl)-, (R)- [CAS]	118101-09-0	EP 294256	Anticancer, other	Cancer, general
L-5-hydroxytryptophan	L-Tryptophan, 5-hydroxy- [CAS]	4350-09-8		Metabolic and enzyme disorders	Unspecified
L-745337	Methanesulfonamide, N-[6-[(2,4-difluorophenyl)thio]-2,3-dihydro-1-oxo-1H-inden-5-yl]- [CAS]	158205-05-1	WO 9413635	Analgesic, NSAID	Pain, general
L-758298	Phosphonic acid, [3-[[[(2R,3S)-2-[(1R)-1-[3,5-bis(trifluoromethyl)phenyl]ethoxy]-3-(4-fluorophenyl)-4-morpholinylmethyl]-2,5-dihydro-5-oxo-1H-1,2,4-triazol-1-yl]- [CAS]	172673-20-0	WO 9523798	Antiemetic	Chemotherapy-induced nausea and vomiting
L-826141			WO 9722585	Anticathma	Unspecified
labetalol	5-[1-hydroxy-2-[(1-methyl-3-phenylpropyl)amino]ethyl]salicylamide HCl	32780-64-6	US 4012444	Antihypertensive, adrenergic	
lacidipine	3,5-Pyridinedicarboxylic acid, 4-[2-[3-(1,1-dimethylethoxy)-3-oxo-1-propenyl]phenyl]-1,4-dihydro-2,6-dimethyl-, diethyl ester, (E)- [CAS]	36894-69-6			
Lactic Acid					
lactitol	D-Glucitol, 4-O-β-D-galactopyranosyl- [CAS]	103890-78-4	GB 2164336	Antihypertensive, other	Hypertension, general
Lactulose		585-86-4		Hepatoprotective	Infection, neurological
lafutidine	Acetamide, 2-[(2-furanylmethyl)sulfinyl]-N-[4-[[4-(1-piperidinylmethyl)-2-pyridinyl]oxy]-2-butenyl]-, (Z)- [CAS]	4618-18-2			
Lamifiban		118288-08-7	EP 282077	Antituber	Ulcer, gastric
lamivudine	2(1H)-Pyrimidinone, 4-amino-1-[2-(hydroxymethyl)-1,3-oxathiolan-5-yl]-, (2R-cis)- [CAS]	169899-19-8			
lamotrigine	1,2,4-Triazine-3,5-diamine, 6-(2,3-dichlorophenyl)- [CAS]	144412-49-7			
		134678-17-4	EP 513917	Antiviral, anti-HIV	Infection, HIV/AIDS
		84057-94-1	EP 21121	Antiepileptic	Epilepsy, partial (focal, local)

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lanidolol	Benzenepropanoic acid, 4-[2-hydroxy-3-[[2-[(4-morpholinylcarbonyl)amino]ethyl]amino]propoxy]-, (2,2-dimethyl-1,3-dioxolan-4-yl)methyl ester, [S-(R*, R*)]-, HCL	133242-30-5	EP 397031	Antiarrhythmic	Tachycardia, general
lanicemine	(S)-Alpha-phenyl-2-pyridine ethanamine dihydrochloride	153322-05-5		Neurological	Unspecified
laniquidar	Methyl 6,11-dihydro-11-[[2-[4-(2-quinolinemethoxy)phenyl]ethyl]-4-piperidinylidene]-5H-imidazo[2,1-b][3]benzazepine-3-carboxylate	197509-46-9	WO 9734897	Radio/chemosensitizer	Cancer, general
lanocanazole	1H-Imidazole-1-acetonitrile, Alpha-[4-(2-chlorophenyl)-1,3-dithiolan-2-ylidene], (E)-(+)- [CAS]	101530-10-3	US 4738976	Antifungal	Infection, fungal, general
Lanoteplase		171870-23-8			
Lanreotide		108736-35-2			
lansoprazole	1H-Benzimidazole, 2-[[[3-methyl-4-(2,2,2-trifluoroethoxy)-2-pyridyl]methyl]sulfinyl]- [CAS]	103577-45-3	EP 174726	Antitumor	Ulcer, duodenal
lanthanum carbonate	Carbonic acid, lanthanum(3+) salt (3:2) [CAS]	587-26-8	US 5968976	Urological	Hyperphosphataemia
lapatinib	4-Quinazolinamine, N-[3-chloro-4-[(3-fluorobenzyl)methoxy]phenyl]-6-[5-[[[2-(methylsulfonyl)ethyl]amino]methyl]furan-2-yl]	388082-78-8		Anticancer, other	Cancer, breast
laquinimod		248281-84-7		Multiple sclerosis treatment	Multiple sclerosis, general
lasofoxiene	2-Naphthalenol, 5,6,7,8-tetrahydro-6-phenyl-5-(4-(2-(1-pyrrolidinyl)ethoxy)phenyl-(5R-cis)-, (S-(R*, R*)))-2,3-dihydroxybutanedioate [CAS]	190791-29-8	WO 9716434	Menopausal disorders	Hormone replacement therapy



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latamoxef	5-Oxa-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 7-[[carboxy(4-hydroxyphenyl)acetyl]amino]-7-methoxy-3-[[[(1-methyl-1H-tetrazol-5-yl)thio]methyl]-8-oxo- [CAS]	64952-97-2 64953-12-4	GB 1547351	Beta-lactam antibiotic	Infection, general
latanoprost	5-Heptanoic acid, 7-(3,5-dihydroxy-2-(3-hydroxy-5-phenylpentyl)cyclopentyl)-, 1-methyl ethyl ester, (1R-(1Alpha(Z),2B(R*),3Alpha,5Alpha))- [CAS]	130209-82-4 135-43-3 146-37-2 83-72-7	WO 9002553	Prostaglandin	Glaucoma
Lauroguadine					
Laurolinium Acetate					
Lawsonone					
LAX-111	1-(Z,Z,Z,Z-icos-5,8,11,14,17-pentaenoxy)-3-(Z,Z,Z,Z-icos-5,8,11,14,17-pentaenoxy)propane	103878-84-8		Neuroleptic	Schizophrenia
Lazabemide	Benzene carboximidic acid, 4-[(2S)-3-(cyclopentylmethylamino)-2-[(2-naphthalenylsulfonyl)amino]-3-oxopropyl]-hydrazide [CAS]		WO 9749673	Antithrombotic	Thrombosis, venous
LB-30057					
L-Cystine					
Lefetamine	4-Isoxazolecarboxamide, 5-methyl-N-[(4-(trifluoromethyl)phenyl)- [CAS]	7262-75-1			
leflunomide	4-Isoxazolecarboxamide, 5-methyl-N-[(4-(trifluoromethyl)phenyl)- [CAS]	75706-12-8 104981-93-3 75706-12-6 5633-16-9	EP 13376 US 5610173	Antiarthritic, immunological Anticancer, other	Arthritis, rheumatoid Cancer, ovarian
Lelepyrrole	4-Thia-1-azabicyclo[3.2.0]heptane-2-carboxylic acid, 6-[[[aminophenylacetyl]amino]-3,3-dimethyl-7-oxo-, (5-methyl-2-oxo-1,3-dioxol-4-yl)methyl ester, [2S-[2Alpha,5Alpha,6B(S*)]]- [CAS]	80734-02-7 86273-18-9 37339-90-5	EP 61206	Penicillin, oral Anticancer, immunological	Infection, general Cancer, stomach
lenampicillin					
lentinan	Lentinan [CAS]				

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<b>Lepirudin</b>	3,5-Pyridinedicarboxylic acid, 1,4-dihydro-2,6-dimethyl-4-(3-nitrophenyl)-, 2-[(3,3-diphenylpropyl)methylamino]-1,1-dimethylethyl methyl ester-, hydrochloride [CAS]	100427-26-7 132866-11-6	US 4705797	Antihypertensive, other	Hypertension, general
lercanidipine	1H-Benzimidazole, 1-(phenylmethyl)-2-(1-piperazinyl)- [CAS]	143257-98-1 132449-46-8	US 5256665	Antiemetic	Nausea and vomiting, general
<b>Lesopitron</b>	Benzoic acid, 4-[(3-(1,6-dihydro-8-oxo-9H-purin-9-yl)-1-oxopropyl)amino]-, monopotassium salt [CAS]	138117-50-7	US 6338963	Antiparkinsonian	Parkinson's disease
letaprinim	4-Thiazolidinecarboxylic acid, 2-[2-(2-ethoxy-2-oxoethyl)thio]ethyl-, [CAS]	53943-88-7	US 4032534	COPD treatment	Bronchitis, chronic
letostaine	Benzonitrile, 4,4'-(1H-1,2,4-triazol-1-ylmethylene)bis-, [CAS]	112809-51-5 480-17-1 53714-56-0	EP 236940	Anticancer, hormonal	Cancer, breast
<b>Leucocyanidin</b>					
<b>Leuprolide</b>					
leuprolide acetate	Luteinizing hormone-releasing factor (pig), 6-D-leucine-9-(N-ethyl-L-prolinamide)-10-deglycinamide-, monoacetate (salt) [CAS]	53714-56-0 53714-56-0 74381-53-6		Formulation, implant	Cancer, prostate
leuprorelin	Luteinizing hormone-releasing factor (pig), 6-D-leucine-9-(N-ethyl-L-prolinamide)-10-deglycinamide-, [CAS]	53714-56-0		Formulation, implant	Cancer, prostate
<b>Levallorphan</b>					
levamisole	Imidazo[2,1-b]thiazole, 2,3,5,6-tetrahydro-6-phenyl-, (S)- [CAS]	152-02-3 14769-73-4 16595-80-5 94535-50-9	US 4584305	Anthelmintic	Infection, helminth, general
<b>Levcromakalim</b>					
levetiracetam	1-Pyrrolidineacetamide, Alpha-ethyl-2-oxo-, (S)- [CAS]	102767-28-2	EP 162036	Antiepileptic	Epilepsy, general
levobetaxolol	2-Propanol, 1-(4-(2-(cyclopropylmethoxy)ethyl)phenoxy)-3-(1-methylethyl)amino hydrochloride [CAS]	116209-55-3		Formulation, mucosal, topical	Glaucoma

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levobunolol	1-(2H)-Naphthalenone, 5-[3-[(1,1-dimethyl-ethyl)amino]-2-hydroxypropoxy]-3,4-dihydro-, (S)- [CAS]	27912-14-7 47141-42-4	US 3641152	Formulation, mucosal, topical	Glaucoma
levobupivacaine	2-Piperidinecarboxamide, 1-butyl-N-(2,6-dimethylphenyl)-, (S)- [CAS]	27262-47-1	WO 9510276	Anaesthetic, injectable	Anaesthesia
levocabastine	4-Piperidinecarboxylic acid, 1-[4-cyano-4-(4-fluorophenyl)cyclohexyl]-3-methyl-4-phenyl-, [3S-1(cis),3Alpha,4R]- [CAS]	79449-98-2 79516-88-0 79547-78-7	US 4369184	Antiallergic, non-asthma	Rhinitis, allergic, general
levocetirizine	Acetic acid, (2-[(4-chlorophenyl)phenylmethyl]-1-piperazinyl)ethoxy-, (R)- [CAS]	130018-77-8 59-92-7	WO 9406429	Antiallergic, non-asthma	Allergy, general
Levodopa	1,2-Propanediol, 3-(4-phenyl-1-piperazinyl)-, (S)- [CAS]	99291-25-5	EP 147847	Antitussive	Cough
levodropropizine	7H-Pyrido[1,2,3-de]-1,4-benzoxazine-6-carboxylic acid, 9-fluoro-2,3-dihydro-3-methyl-10-(4-methyl-1-piperazinyl)-7-oxo-, (S)- [CAS]	100986-85-4 138199-71-0	EP 206283	Quinolone antibacterial	Infection, respiratory tract, lower
levofloxacin	2-Propanol, 1-(2-methoxyphenoxy)-3-[(1-methyl-ethyl)amino]-, (S)- [CAS]	1477-40-3 27058-84-0 5741-22-0 77164-20-8	EP 15418	Antihypertensive, adrenergic	
levonorgestrel	18,19-Dinorpregn-4-en-20-yn-3-one, 13-ethyl-17-hydroxy-, (17Alpha)- [CAS]	797-63-7		Formulation, implant	Contraceptive, female
Levophaceterperane	Propanedinitrile, [[4-(1,4,5,6-tetrahydro-4-methyl-6-oxo-3-pyridazinyl)phenyl]hydrazono]-, (R)- [CAS]	24558-01-8 2338-37-6 77-07-6			
Levopropoxyphene	Benzamide, 5-(aminosulfonyl)-N-[(1-ethyl-2-pyrrolidinyl)methyl]-2-methoxy-, (S)- [CAS]	131741-08-7 141505-33-1	EP 383449	Cardio stimulant	Heart failure
levosulpiride		23672-07-3	GB 2014990	Antiemetic	Dyspepsia

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<i>Levothyroxine</i>	1-β-L-ribofuranosyl-1,2,4-triazole-3-carboxamide				
levovirin	L-Leucine, N-methyl-N-[[4-[(2-methyl-1H-imidazo[4,5-c]pyridin-1-yl)methyl]phenyl]sulfonyl-, ethyl ester- [CAS]	139133-26-9	WO 9203423	Antiviral, other	Infection, hepatitis-C virus
lexipafant			WO 9624579	Neurological	Dementia, AIDS-related
LF-15-0185	2-Pyrrolidinecarboxamide, N-[3-[(4-(aminomethyl)benzoyl)amino]propyl]-1-[[2,4-dichloro-3-[[[2,4-dimethyl-8-quinolinyloxy)methyl]phenyl]sulfonyl], (2S)- [CAS]	209733-45-9	FR 2756562	Immunosuppressant	Lupus erythematosus, general
LF-16-0687	2,4,6-Octatrienoic acid, 7-(3,5-bis(1,1-dimethylethyl)phenyl)-3-methyl- (2E,4E,6E)- [CAS]	178600-20-9		Neuroprotective	Head trauma
LGID-1550		9002-67-9		Anticancer, other	Cancer, cervical
LH		9034-40-6			
LH-RH	1H-Benzimidazole, 5-[(3-chlorophenyl)-1H-imidazol-1-ylmethyl]- [CAS]	115575-11-6		Formulation, other	Psoriasis
liarazole	1H-Pyrrolizine-5-acetic acid, 6-(4-chlorophenyl)-2,3-dihydro-2,2-dimethyl-7-phenyl- [CAS]	156897-06-2		Antiarthritic, other	Arthritis, osteo
licofelone		153504-81-5			
Licoastinel	Phosphonic acid, [1-amino-3-(dimethylamino)propylidene]bis- [CAS]	63132-38-7	WO 9702827	Urological	Unspecified
lidacronate		66871-56-5			
Lidamdine	Acetamide, 2-(diethylamino)-N-(2,6-dimethylphenyl)- [CAS]	137-58-6			
lidocaine		59160-29-1			
Lidofenin		3416-26-0		Formulation, transdermal, patch	Pain, post-herpetic
Lidoflazine					
limaprost	Prosta-2,13-dien-1-oic acid, 11,15-dihydroxy-17,20-dimethyl-9-oxo-, (2E,11Alpha,13E,15S,17S)-, [CAS]	74397-12-9	GB 2041388	Prostaglandin	Buerger's syndrome

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<b>Lincomycin</b>		154-21-2			
<b>Lindane</b>		58-89-9			
linzolid	Acetamide, N-[(3-(3-fluoro-4-(4-morpholinyl)phenyl)-2-oxo-5-oxazolidinyl)methyl]-, (S)- [CAS]	165800-03-3	WO 9507271	Antibiotic, other	Infection, dermatological
<b>Linoleic Acid</b>		60-33-3			
<b>Linolenic Acid</b>		463-40-1			
<b>Liothyronine</b>		6893023			
<b>Lipase</b>		9001-62-1			
Lipo-dexamethasone palmitate	Pregna-1,4-diene-3,20-dione, 9-fluoro-11,17-dihydroxy-16-methyl-21-[(1-oxohexadecyl)oxy]-, (11S,16Apha)- [CAS]	14899-36-6		Formulation, optimized, microemulsion	Arthritis, rheumatoid
lipo-flurbiprofen	[(1,1'-Biphenyl)-4-acetic acid, 2-fluoro-Alpha-methyl-, 1-(acetoxy)ethyl ester [CAS]	91503-79-6	JP 60208910	Formulation, optimized, microemulsion	Pain, cancer
Lipogel HA			EP 525655	Formulation, optimized, liposomes	Unspecified
LiquiVent	perfluorooctylbromide	423-55-2	US 5437272	Lung Surfactant	Respiratory distress syndrome, adult
liranesate	Carbamethioic acid, (6-methoxy-2-pyridinyl)methyl-, O-(5,6,7,8-tetrahydro-2-naphthalenyl) ester [CAS]	88678-31-3	GB 2124617	Antifungal	Infection, dermatological
lisinopril	L-Proline, 1-[(2S)-1-carboxy-3-phenylpropyl]-L-lysyl]-, (S)- [CAS]	76547-98-3			
		83915-83-7	EP 12401	Antihypertensive, renin system	Hypertension, general
<b>Lisofylline</b>		100324-81-0			
lisuride	Urea, N'-[(8Apha)-9,10-didehydro-6-methylergolin-8-yl]-N,N-diethyl-, [CAS]	19875-60-6			
		305-13-5			
		18016-80-3			
<b>Lithium Citrate</b>		919-16-4			
		554-13-2			
lithium	Carbonic acid, dilithium salt [CAS]			Formulation, modified-release, <=24hr	Depression, bipolar
	Benzamide, N-[3-chloro-4-(5H-pyrrolo[2,1-c][1,4]benzodiazepin-10(11H)-ylcarbonyl)phenyl]-5-fluoro-2-methyl- [CAS]	168079-32-1	US 5736540	Cardiovascular	Heart failure
lixivaptan				Immunosuppressant	Thrombosis, venous
LJP-1082			US 6207160		

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LLUAlpha	S-2,7,8-Trimethyl-6-(8-carboxyethyl)-8-hydroxychroman				
LMP-160			US 5643893	Antihypertensive, other	Hypertension, general
LMP-420			US 5643893	Antiasthma	Asthma
lobaplatin	Platinum, (1,2-cyclobutanedimethanamine-N,N')2-hydroxypropanoate(2-O1,O2), (SP-4-3(S),(trans))- [CAS]	135558-11-1	DE 4115559	Antiarthritic, other	Arthritis, rheumatoid
Lobeline		90-69-7			
Lobenzarit		63329-53-3		Anticancer, alkylating	Cancer, lung, small cell
lodoxamide	2,2'-(2-chloro-5-cyano-1,3-phenylene)diamino)bis(2-oxoacetate)2-amino-2-(hydroxymethyl)-1,3-propanediol (1:2)	63610-08-3			
		53882-12-5	US 4439445	Antiasthma	Asthma
Lofentanil		61380-40-3			
lofepramine	Ethanone, 1-(4-chlorophenyl)-2-[(3-(10,11-dihydro-5H-dibenz[b,f]azepin-5-yl)propyl)methylamino]- [CAS]	23047-25-8			
		26786-32-3	GB 1177525	Antidepressant	
lotexidine	1H-imidazole, 2-[1-(2,6-dichlorophenoxy)ethyl]-4,5-dihydro- [CAS]	31036-80-3	GB 1181356	Antihypertensive, adrenergic	Hypertension, general
Loflucarban		790-69-2			
lomelofloxacin		98079-51-7			
	3-Quinolonecarboxylic acid, 1-ethyl-6,8-difluoro-1,4-dihydro-7-(3-methyl-1-piperazinyl)-4-oxo- [CAS]	98079-52-8	EP 140116	Quinolone antibacterial	Infection, respiratory tract, lower
lometizine	Piperazine, 1-[bis(4-fluorophenyl)methyl]-4-[[2,3,4-trimethoxyphenyl)methyl]-, [CAS]	101477-54-7	EP 159566	Antimigraine	Migraine
lometylline		101477-55-8		Neurological	
		10226-54-7	DE 2207860		
lomustine	Urea, N-(2-chloroethyl)-N'-cyclohexyl-N-nitroso- [CAS]	13010-47-4	JP 48075526	Anticancer, alkylating	
lonafarnib	1-Piperidinecarboxamide, 4-[2-[[4-[(11R)-3,10-dibromo-8-chloro-6,11-dihydro-5H-benzof[5,6]cyclohepta[1,2-b]pyridin-11-yl]-1-piperidinyl]-2-oxoethyl]- [CAS]	193275-84-2	US 5874442	Anticancer, other	Cancer, lung, non-small cell

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Lonapalene	1H-Indazole-3-carboxylic acid, 1-[(2,4-dichlorophenyl)methyl]- [CAS]	91431-42-4			
Lonazolac	4-(p-chlorophenyl)-4-hydroxy-N,N-dimethylbutyramide HCl	53808-88-1			
lonidamine	Alpha,Alpha-diphenyl-1-piperidine butyramide HCl	50264-69-2	DE 2310031	Radio/chemosensitizer	Cancer, breast
loperamide	1-Piperidinebutanamide, 4-(4-chlorophenyl)-4-hydroxy-N,N-dimethyl-Alpha,Alpha-diphenyl-, 1-oxide, trans- [CAS]	34552-83-5 53179-11-6	US 3714159	Antidiarrhoeal	Diarrhoea, general
loperamide oxide	1H-Imidazo[1,2-a][1,4]benzodiazepin-1-one, 6-(2-chlorophenyl)-2,4-dihydro-2-[(4-methyl-1-piperazinyl)methylene]-8-nitro- [CAS]	106900-12-3	EP 219898	Antidiarrhoeal	Diarrhoea, general
loprazolam	1-Azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 7-[(aminophenylacetyl)amino]-3-chloro-8-oxo-, [6R-[6Alpha,7beta(R*)]]-, [CAS]	61197-73-7 61197-83-1 70111-54-5	GB 1496426	Hypnotic/Sedative	
Loprinone	1-Azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 7-[(aminophenylacetyl)amino]-3-chloro-8-oxo-, [6R-[6Alpha,7beta(R*)]]-, [CAS]	106730-54-5			
loracarbef	1-Piperidinecarboxylic acid, 4-(8-chloro-5,6-dihydro-1H-benzo[5,6]cyclohepta[1,2-b]pyridin-11-ylidene)-, ethyl ester- [CAS]	76470-66-1 121961-22-6	EP 14475	Cephalexosporin, oral	Infection, respiratory tract, lower
Loralimine	2H-1,4-Benzodiazepin-2-one, 7-chloro-5-(2-chlorophenyl)-1,3-dihydro-3-hydroxy-	47562-08-3			
lorazadine	1-Piperidinecarboxylic acid, 4-(8-chloro-5,6-dihydro-1H-benzo[5,6]cyclohepta[1,2-b]pyridin-11-ylidene)-, ethyl ester- [CAS]	79794-75-5	EP 42544	Antiallergic, non-asthma	Rhinitis, allergic, general
lorazepam	2H-1,4-Benzodiazepin-2-one, 7-chloro-5-(2-chlorophenyl)-1,3-dihydro-3-hydroxy-	846-49-1		Formulation, oral, orally-disintegrating	Epilepsy, general
lorazinide	Benzeneacetamide, N-(4-chlorophenyl)-N-[1-(1-methylethyl)-4-piperidinyl][CAS]	58934-46-6 59729-31-6	DE 2642856	Antiarrhythmic	
lormetazepam	2H-1,4-Benzodiazepin-2-one, 7-chloro-5-(2-chlorophenyl)-1,3-dihydro-3-hydroxy-1-methyl- [CAS]	848-75-9	US 3296249	Hypnotic/Sedative	Insomnia

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loroxicam	2H-Thieno[2,3-e]-1,2-thiazine-3-carboxamide, 6-chloro-4-hydroxy-2-methyl-N-2-pyridinyl-, 1,1-dioxide- [CAS]	70374-39-9	EP 313935	Analgesic, NSAID	Pain, post-operative
losartan	1H-imidazole-5-methanol, 2-butyl-4-chloro-1-[2'-(1H-tetrazol-5-yl)[1,1'-biphenyl]-4-yl]methyl-, [CAS]	124750-99-8 114798-26-4	EP 253310	Antihypertensive, renin system	Hypertension, general
loteprednol	Androst-1,4-diene-17-carboxylic acid, 17-[(ethoxycarbonyloxy)-11-hydroxy-3-oxo-, chloromethyl ester, (11S,17Alpha)- [CAS]	82034-46-6 171049-14-2 75330-75-5 10/2/1977	GB 2079755	Anti-inflammatory, topical	Uveitis
Lotrafiban	Pentanoic acid, 4-[(3,4-dichlorobenzoylamino)-5-(3-methoxypropyl)pentylamino]-5-oxo-, (±) [CAS]	107097-80-3	WO 8703869	GI inflammatory/bowel disorders	Pancreatitis
Lovastatin		68767-14-6			
Loxapine		80382-23-6 87828-36-2	EP 55588	Antiarthritic, other	Arthritis, rheumatoid
loxiglumide	1-[3]2-[5-chloro-1-(4-fluorophenyl)-3-1H-indolyl]ethyl[methylamino]propyl]-2-imidazolidinone hydrochloride		WO 9516684	Neuroleptic	Psychosis, general
loxoprofen		144665-07-6			
Lu-35-138					
Lubeluzole	(-)-7-[(2R,4aR,5R,7aR)-2-(1,1-difluoropentyl)-2-hydroxy-6-oxooctahydrocyclopenta[b]pyran-5-yl]heptanoic acid	136790-76-6		Laxative	Constipation
lucanthone	Thioxanthene-9-one, 1-[(2-(diethylamino)ethyl)amino-4-methyl- [CAS]	479-50-5 548-57-2 82186-77-4		Radio/chemosensitizer	Cancer, brain
Lucanthone	Benzenecarboxylic acid, 2-(2-chloro-6-fluorophenyl)amino)-5-methyl- [CAS]				
Lumefantrine		220991-20-8		Analgesic, NSAID	Pain, general
lumiracoxib					



Table IV

API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
Lutetecan	11H-1,4-Dioxin[2,3-g]pyran[3',4':6,7]indolizino[1,2-b]quinoline-9,12[8H,14H]-dione, 8-ethyl-2,3-dihydro-8-hydroxy-15-[[4-methyl-1-piperazinyl]methyl]-, [CAS]	155773-58-3		Formulation, optimized, liposomes	Cancer, ovarian
	Lutetium, bis(acetato-O)[9,10-diethyl-20,21-bis-[2-(2-methoxyethoxy)ethoxy]ethoxy]-4,15-dimethyl-8,11-imino-3,6,16,13-dinitrido-1,18-benzodiazacycloheicosine-5,14-dipropanolato-N1,N18,N23,N24,N25]-, (PB-7-11-233'2'4)-, [CAS]	158436-90-7	WO 9908411	Radio/chemosensitizer	Atherosclerosis
	Zinc[2-(2,6-dichloroanilino)phenyl]acetate			Anti-inflammatory	Arthritis, rheumatoid
LY-104	Hexadecanamide, N-4-[[2-[2-[2-[O-(N-acetyl- $\alpha$ -neuraminosyl)-(2-3)-O- $\beta$ -D-galactopyranosyl-(1-4)-O- $\beta$ -D-glucopyranosyl-(1-3)]- $\beta$ -D-glucopyranosyl]oxy]ethoxy]ethoxy]ethoxy]methyl]phenyl]-2-tetradecyl-, [CAS]	158792-45-1	EP 655243	Cognition enhancer Hypnotic/Sedative	Dementia, senile, general Sleep disorder, general
	[ $\beta$ -methyl-6-chlorometatonin				
	Benzoic acid, 2-[3-[3-[(5-ethyl-4'-fluoro-2-hydroxy[1,1'-biphenyl]-4-yl)oxy]propoxy]-2-propylphenoxy]-, [CAS]	161172-51-6		Anticancer, other	Cancer, melanoma
LY-293558	3-Isoquinolinecarboxylic acid, decahydro-6-[2-(1H-tetrazol-5-yl)ethyl]-, [3S-(3 $\alpha$ ,4 $\alpha$ ,4 $\alpha$ ,6 $\alpha$ ,8 $\alpha$ ,9 $\alpha$ )-], [CAS]	154652-83-2		Analgesic, other	Pain, neuropathic
	1,4-Dioxo-8,11-diazacyclohexadec-13-ene-2,5,9,12-tetrone, 10-[(3-chloro-4-methoxyphenyl)methyl]-6,6-dimethyl-3-(2-methylpropyl)-16-[(1S)-1-(2S,3R)-3-phenylloxirany]ethyl]-, (3S,10R,13E,16S)-, [CAS]				
LY-355703		18256-67-7	WO 9707798	Anticancer, other	Cancer, lung, non-small cell
Lyapolate		25053-27-4			
Lymecycline		992-21-2			

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API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
Lynestrenol		52-76-6			
Lypressin		50-57-7			
Lysine Acetylsalicylate		62952-06-1			
lysine salicylate	L-Lysine, 2-hydroxybenzoate [CAS]	59335-08-9	WO 9624331	Anaesthetic, NSAID	Diagnosis, cancer
lysophospholipids			WO 9843093	Diagnostic	
	Dichloro[4aR,13aR,17aR,21aR]-1,2,3,4,4a,5,6,12,13,13a,14,15,16,17,17a,18,19,20,21,21a-icosahydro-1,7-nitro-7H-dibenzo[b,h][1,4,7,10]tetraazacycloheptadecine-kappaN5,kappaN13,kappaN18,kappaN21,kappaN22)manganese				
M-40403			US 6180620	Anticancer, other	Unspecified
mabuprofen	Benzeneacetamide, N-(2-hydroxyethyl)-Alpha-methyl-4-(2-methylpropyl)-, (+/-)-[CAS]	82821-47-4	DE 3121595	Anti-inflammatory	
Mabuterol		56341-08-3			
Macrophage Colony-Stimulating Factor		81627-83-0			
MADU		840-50-6			
mafenide	Benzenesulfonamide, 4-(aminomethyl)-monoacetate [CAS]	13009-99-9			
	Ethanesulfonic acid, 2-[2-bis(2-chloroethyl)amino]tetrahydro-2H-1,3,2-oxazaphosphorin-4-yl]thio], P-oxide, cis-(4)- [CAS]	138-39-6		Vulnerary	Burns
mafosfamide		88859-04-5			
		98845-64-8	EP 393575	Anticancer, alkylating	Cancer, renal
magaldrate	Aluminum magnesium hydroxide sulfate (Al5Mg10(OH)31(SO4)2), hydrate [CAS]	74978-16-8	US 2923660	Antacid/Antiflatulent	
Magenta I		632-99-5			
Magnesium		132-49-0			
Acetylsalicylate					
Magnesium Carbonate		39409-82-0			
Hydroxide					
magnesium chloride	Magnesium chloride (MgCl2) [CAS]	7786-30-3		Formulation, oral, enteric-coated	Nutrition

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API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
<b>Magnesium Citrate</b>	D-Gluconic acid, magnesium salt (2:1) [CAS]	3344-18-1			
magnesium gluconate		3632-91-5		Formulation, other	Hypertension, general
<b>Magnesium Lactate</b>		18917-93-6			
<b>Magnesium Salicylate</b>		18917-89-0			
<b>Malathion</b>		121-75-5			
<b>Malotilate</b>		59937-28-9			
<b>Mandellic Acid</b>		90-64-2			
<b>Mandellic Acid Isoamyl Ester</b>		5421045			
<b>Mangafodipir</b>		118248-94-5 (free acid); 155319-91-8 (hexahydrogen )			
	3,5-Pyridinedicarboxylic acid, 1,4-dihydro- 2,6-dimethyl-4-(3-nitrophenyl)-, 2-(4- (diphenylmethyl)-1-piperazinyl)ethyl methyl ester [CAS]	89228-50-6 89226-75-5	EP 94159	Antihypertensive, other	Hypertension, general
mandipine		551-74-6			
<b>Mannomustine</b>	mannose-6-phosphate			Vulnerary	Wound healing
mannose-6-phosphate		10262-69-8			
<b>Maprotiline</b>					
maribavir	1H-Benzimidazol-2-amine, 5,6-dichloro-N- (1-methylethyl)-1- $\beta$ -L-ribofuranosyl- [CAS]	176161-24-3		Antiviral, other	Infection, cytomegalovirus
marimastat	N-[2,2-Dimethyl-1(S)-(N-methylcarbamoyl)propyl]-N,3(S)-dihydroxy- 2(R)-isobutylsuccinamide	154039-60-8	WO 9402447	Anticancer, other	Cancer, pancreatic
	1,3-Cyclohexanediol, 4-methylene-5-(2- (octahydro-1-(1-(3-hydroxy-3-methylbutoxy)ethyl)-7 $\alpha$ -methyl-4H-inden-4- ylidene)ethylidene)-, (1S- (1 $\alpha$ pha(R*),3 $\alpha$ B,4E(1S*,3R*,5Z),7 $\alpha$ Alpha) )- [CAS]				
maxacalcitol		103909-75-7	US 4891364	Hormone	Hyperparathyroidism

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mazindol	3H-Imidazo[2,1-a]isoindol-5-ol, 5-(4-chlorophenyl)-2,5-dihydro- [CAS]	22232-71-9	US 3763178	Anorectic/Antiobesity	Obesity
<b>Mazipredone</b>		<b>13085-08-0</b>			
<b>MC-5723</b>			US 6043259	Cardiovascular	Unspecified
MCC-478	(2-amino-6-(4-methoxyphenylthio)-9-(2-(phosphonomethoxy)ethyl)purine bis(2,2,2-trifluoroethyl) ester)			Antiviral, other	Infection, hepatitis-B virus
MCI-154	3-(2H)-Pyridazinone, 4,5-dihydro-6-[4-(4-pyridinylamino)phenyl]-, monohydrochloride [CAS]	98326-32-0 98326-33-1	EP 145019	Cardio stimulant	Heart failure
<b>m-Cresyl Acetate</b>		<b>122-46-3</b>			
MDAM	Gamma-Methylene-10-deazaaminopterin			Anticancer, antimetabolite	Cancer, general
MDI-101			US 4885311	Antiacne	Acne
MDI-403		403849-94-5	US 4677120	Antiacne	Acne
MDL-100907	4-Piperidinemethanol, Alpha-(2,3-dimethoxyphenyl)-1-(2-(4-fluorophenyl)ethyl)-, (R)- [CAS]	139290-65-6		Hypnotic/Sedative	Sleep disorder, general
mebendazole	1-methyl-5-benzoylbenzimidazole-2-carbamate	31431-39-7	GB 1307306	Anthelmintic	
mebeverine	Benzoic acid, 3,4-dimethoxy-, 4-[ethyl(2-(4-methoxyphenyl)-1-methylethylamino)butyl ester] [CAS]	3625-06-7		Antispasmodic	Irritable bowel syndrome
<b>Mebhydroline</b>		<b>524-81-2</b>			
<b>Mebrofenin</b>		<b>78266-06-5</b>			
<b>Mebutamate</b>		<b>64-55-1</b>			
mecamylamine	Bicyclo(2.2.1)heptan-2-amine, N,2,3,3-tetramethyl- [CAS]	60-40-2		Neurological	Unspecified
<b>Mechlorethamine</b>		<b>51-75-2</b>			
<b>Mechlorethamine Oxide</b>		<b>302-70-5</b>			

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melagatran	Glycine, N-[(1R)-2-[(2S)-2-[[[4-(aminiminomethyl)phenyl]methyl]amino]carbonyl]-1-azetidinyl]-1-cyclohexyl-2-oxoethyl]- [CAS]	159776-70-2	WO 9616671	Antithrombotic	Thrombosis, general
melanocortin-4 agonist	N-[(3R)-1,2,3,4-Tetrahydroisoquinolinium-3-ylcarbonyl]-(1R)-1-(4-chlorobenzyl)-2-(4-cyclohexyl)-4-(1H-1,2,4-triazol-1-yl)methyl)piperidin-1-yl]-2-oxoethylamine(1)			Anorectic/Antiobesity	Obesity
Melarsoprol		494-79-1			
Melengestrol		5633-18-1			
melevodopa	Alanine, 3-(3,4-dihydroxyphenyl)-methyl ester [CAS]	7101-51-1	EP 252290	Antiparkinsonian	Parkinson's disease
Melinamide		14417-88-0			
Melitracen		5118-29-6			
meloxicam	2H-1,2-Benzothiazine-3-carboxamide, 4-hydroxy-2-methyl-N-(5-methyl-2-thiazolyl)-, 1,1-dioxide- [CAS]	71125-38-7	US 4233299	Antiarthritic, other	Arthritis, rheumatoid
melperone	1-Butanone, 1-(4-fluorophenyl)-4-(4-methyl-1-piperidinyl)- [CAS]	1622-79-3 3575-80-2	BE 651144	Neuroleptic	
Melphalan		148-82-3			
meluadrine	Benzenemethanol, 2-chloro-Alpha-(((1,1-dimethylethyl)amino)methyl)-4-hydroxy-, (R)-, (R*)-2,3-dihydroxybutanedioate (1:1) (salt) [CAS]	134865-37-5 41107-52-1	EP 420120	Labour inhibitor	Labour, preterm
memantine	Tricyclo[3.3.1.1 <sup>3,7</sup> ]decan-1-amine, 3,5-dimethyl [CAS]	19982-08-2	EP 392059	Cognition enhancer	Dementia, AIDS-related
MEN-10700	Acetamide, 2-[[[(5R,6S)-6-[(1R)-1-hydroxyethyl]-2-methyl-7-oxo-4-thia-1-azabicyclo[3.2.0]hept-2-en-3-yl]methyl]methylamino]- [CAS]	195874-55-6	WO 9406803	Beta-lactam antibiotic	Infection, general

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MEN-10755	5,12-Naphthacenedione, 7-[[4-O-(3-amino-2,3,6-trideoxy-Alpha-L-lyxo-hexopyranosyl)-2,6-dideoxy-Alpha-L-lyxo-hexopyranosyl]-7,8,9,10-tetrahydro-6,9,11-trihydroxy-9-(hydroxyacetyl)-, hydrochloride, (7S,9S)- [CAS]	169317-77-5	WO 9509173	Anticancer, antibiotic	Cancer, breast
Menadiol		481-85-6			
Menadione		58-27-5			
Menadoxime		573-01-3			
Menbutone		3562-99-0			
Menogaril		71628-96-1			
MENT	7Alpha-Methyl-19-nortestosterone				Contraceptive, male
menthol	Cyclohexanol, 5-methyl-2-(1-methylethyl)- [CAS]	1490-04-8 89-78-1		Formulation, transdermal, systemic	
Menthyl Valerate		89-47-4		Formulation, dermal, topical	Pruritus
Meobentine		46464-11-3			
Meparfynol		77-75-8			
mepartricin	Patricin, methyl ester [CAS]	11121-32-7	US 3780173	Antifungal	Infection, Candida, general
Mepazine		60-89-9			
Mepenzolate Bromide		76-90-4			
Meperidine		57-42-1			
Mephenesin		59-47-2			
Mephenoqualone		70-07-5			
Mephentermine		100-92-5			
Mepherytolin		50-12-4			
Mephobarbital		115-38-8			
Mepindolol		23694-81-7			
Mepitlostane		21362-69-6			
mepivacaine	N-(2,6-Dimethylphenyl)-1-methyl-2-piperidinecarboxamide	96-88-8			
Mepixanox		17854-59-0		Formulation, modified-release, >24hr	Pain, post-operative

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Meprednisone	Bufo-4,20,22-trienolide, 3-[(6-deoxy-4-O-methyl- $\alpha$ -L-mannopyranosyl)oxy]-14-hydroxy-, (3 $\beta$ )- [CAS]	1247-42-3	DE 1910207	Cardio stimulant	Heart failure
Meprobamate		57-53-4			
meproscllarin	Phenol, 3-(3-ethylhexahydro-1-methyl-1H-azepin-3-yl)- [CAS]	33396-37-1	GB 1285025	Analgesic, other	Pain, general
mepazindol		54340-58-8			
mepquitazine	10H-Phenothiazine, 10-(1'-azabicyclo[2.2.2]oct-3-ylmethyl)- [CAS]	29216-28-2	GB 1250534	Antiallergic, non-asthma	
Meralein	Carbamic acid, ((3-(((3-methoxy-4-(5-oxazoyl)phenyl)amino)carbonyl)amino)phenyl)methyl)- (3S)-tetrahydro-3-furanyl ester [CAS]	4386-35-0	US 5807876	Antiviral, other	Infection, hepatitis-C virus
Meralluride		8069-64-5			
Merbromin		129-16-8			
Mercaptopmerin		21259-76-7			
Mercuriallylic Acid		86-36-2			
Mercuric Chloride, Ammoniated		10124-48-8			
Mercuric Oleate	1-Azabicyclo[3.2.0]hept-2-ene-2-carboxylic acid, 3-[[5-[(dimethylamino)carbonyl]-3-pyrrolidinylthio]-6-(1-hydroxyethyl)-4-methyl-7-oxo-, [4R-[3(3S*,5S*),4 $\alpha$ ,5 $\beta$ ,6 $\beta$ (R*)]]- [CAS]	1191-80-6	EP 126587	Beta-lactam antibiotic	Infection, respiratory tract, lower
Mercuric Oxycyanide		1335-31-5			
metimepodib	Benzoic acid, 5-amino-2-hydroxy- [CAS]	198821-22-6	WO 5541170	Formulation, oral, other	Colitis, ulcerative
meropenem		96036-03-2			
Mersalyl		492-18-2			
Mesalamine		89-57-6			
mesalazine		89-57-6			
Mesna		19767-45-4			
Mesordazine		5588-33-0			



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Mestanolone	Carbamic acid, [(8 $\beta$ )-1,6-dimethylergolin-9-yl(methyl)]-, phenylmethyl ester [CAS] Imidodicarbonimidic diamide, N,N-dimethyl- [CAS]	521-11-9	GB 1401935	Antiprolactin Formulation, modified-release, <=24hr	Amenorrhoea Diabetes, Type II
Mesterolone		1424-00-6			
Mestranol		72-33-3			
Mesufen		135-58-0			
Metaclozepam		84031-17-4			
Metampicillin		6489-97-0			
Metapramine		21730-18-5			
Metaproterenol		586-06-1			
Metaraminol		54-49-9			
Metazocine		3734-52-9			
		17692-51-2			
metergoline		21631-37-8			
		2706-42-5			
metformin		657-24-9			
Methacholine		62-51-1			
Methacycline		914-00-1			
Methadone		76-99-3			
Methafurylene		531-06-6			
Methamphetamine		537-46-2			
Methandriol		521-10-8			
Methandrostenolone		72-63-9			
Methantheline		53-46-3			
Methapyrilene		91-80-5			
Methaqualone		72-44-6			
Metharbital		50-11-3			
Methazolamide		554-57-4			
Methdilazine		1982-37-2			
Methenamine		100-97-0			
Methenolone		153-00-4			
Methestrol		130-73-4			
Methetoin		5696-06-0			
Methicillin		132-92-3			

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Methimazole	L-Glutamic acid, N-4-[[[2,4-diamino-6-pteridiny]methyl]methylamino]benzoyl]-[CAS]	60-56-0	US 2512572	Anticancer, antimetabolite	Cancer, general
Methiodal		126-31-8			
Methionic Acid		503-40-2			
Methionine		63-68-3			
Methisazone		1910-68-5			
Methitural		467-43-6			
Methixene		2/24969			
Methocarbamol		532-03-6			
Methohexital		22151-68-4			
methotrexate		59-05-2			
Methotrimeprazine		60-99-1			
Methoxamine		390-28-3			
Methoxsalen		298-81-7			
Methoxyflurane		76-38-0			
Methoxyphenamine		93-30-1			
Methoxypromazine	L-Tyrosine, 3-hydroxy-Alpha-methyl-[CAS]	61-01-8		Formulation, modified-release, <=24hr	Hypertension, general
Methscopolamine		155-41-9			
Methsuximide		77-41-8			
Methyclothiazide		135-07-9			
Methyl Blue		28983-56-4			
Methyl Nicotinate		93-60-7			
Methyl Propyl Ether		557-17-5			
Methyl Salicylate		119-36-8			
Methyl tert-Butyl Ether		1634-04-4			
Methylbenzethonium Chloride		25155-18-4			
Methylcobalamin		13422-55-4			
methyldopa		555-30-6			
Methylene Blue		61-73-4			
Methylethergonovine		113-42-8			

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API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
<b>Methylhexanamine</b>	2-Piperidineacetic acid, Alpha-phenyl, methyl ester [CAS]	105-41-9			
		113-43-1			
		298-59-9		Formulation, modified-release, multi	Attention deficit disorder
<b>Methylprednisolone</b>		83-43-2			
	Pregna-1,4-diene-3,20-dione, 21-(acetoxy)-11-hydroxy-6-methyl-17-(1-oxopropoxy)-, (6Alpha,11B)- [CAS]	86401-95-8	EP 72547	Antipruritic/inflamm, allergic	Pruritus
	Pregna-1,4-diene-3,20-dione, 11,17-dihydroxy-6-methyl-21-[[8-[methyl(2-sulfoethyl)amino]-1,9-dioxocetyl]oxy]-, monosodium salt, (6Alpha,11B)- [CAS]				
		90350-40-6	JP 59137500	Antiasthma	Asthma
<b>Methylthiouracil</b>		56-04-2			
<b>Methyltrienolone</b>		965-93-5			
<b>Methypyrrolon</b>		125-64-4			
<b>Methysergide</b>		361-37-5			
<b>Metazinic Acid</b>		13993-65-2			
	Phenol, 4-[2-hydroxy-3-[(1-methylethyl)amino]propoxy]-2,3,6-trimethyl-, 1-acetate [CAS]	22664-55-7	GB 1206148	Antihypertensive, adrenergic	
	Benzamide, 4-amino-5-chloro-N-[2-(diethylamino)ethyl]-2-methoxy- [CAS]	364-62-5		Formulation, modified-release, <=24hr	Gastro-oesophageal reflux
<b>Metopranolol</b>		7601-55-0			
<b>Metoclopramide</b>		388-51-2			
<b>Metocurine Iodide</b>					
<b>Metofenazate</b>					
	6-Quinazolinesulfonamide, 7-chloro-1,2,3,4-tetrahydro-2-methyl-3-(2-methylphenyl)-4-oxo- [CAS]	17560-51-9	US 4517179	Antihypertensive, diuretic	
		14008-44-7			
<b>Metolazone</b>		143-62-2			
<b>Metopimazine</b>		51384-51-1			
<b>Metopon</b>		56392-17-7			
	2-Propanol, 1-[4-(2-methoxyethyl)phenoxy]-3-[(1-methylethyl)amino]-, (+)- [CAS]	37350-58-6			
		54188-38-4			
<b>Metralindole</b>		31112-62-6			
<b>Metizamide</b>		1949-45-7		Formulation, modified-release, other	Hypertension, general
<b>Metizolc Acid</b>					
<b>Metron S</b>		13946-02-6			

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API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
Metyrapone		54-36-4			
Metyrosine		672-87-7			
Mexazolam		31868-18-5			
Mexenone		1641-17-4			
Mexiletine		31828-71-4			
	4-Thia-1-azabicyclo[3.2.0]heptane-2-carboxylic acid, 3,3-dimethyl-6-[[[3-(methylsulfonyl)-2-oxo-1-(imidazolidinyl)carbonyl]amino]phenylacetyl]amino]-7-oxo-, [2S]-[2Apha,5Apha,6S(S*)]- [CAS]	42057-22-7			
mezlocillin		51481-65-3	GB 1301961	Penicillin, injectable	Infection, general
		72539-76-5			
MFH-244	Benzenecarboximide acid, 3,4,5-trihydroxy-, ethyl ester, hydrochloride	95933-76-9	US 4623659	Cardiovascular	Reperfusion injury
mianserin		21535-47-7			
	Dibenzof(c,fp)pyrazino[1,2-a]azepine, 1,2,3,4,10,14b-hexahydro-2-methyl- [CAS]	24219-97-4	GB 1173783	Antidepressant	Depression, general
Mibefradil		116644-53-2			
Miboplatin		103775-75-3			
Micafungin		235114-32-6			
micronazole	1H-Imidazole, 1-(2,4-dichlorophenyl)-2[2,4-dichlorophenyl]methoxy]ethyl]				
		22916-47-8			
Micronomicin		52093-21-7			
	1H-Purine-2,6-dione, 8-(1'-aminocyclopentyl)-3,7-dihydro-1,3-dipropyl- [CAS]	151159-23-8	US 5378844	Cardiovascular	Unspecified
midaxifilene					
midazolam	4H-Imidazo[1,5-a][1,4]benzodiazepine, 8-chloro-6-(2-fluorophenyl)-1-methyl-[CAS]	59467-70-8	US 4280957	Anaesthetic, injectable	
		59467-94-6			
midecamycin	Leucomycin V, 3,4B-dipropionate [CAS]	35457-80-8	US 3761588	Macrolide antibiotic	Infection, general
	Leucomycin V, 3B,9-diacetate 3,4B-dipropionate [CAS]	55891-07-7	JP 49124087	Macrolide antibiotic	Infection, general
midecteine	2-Thiophenecarboxylic acid, S-(1-methyl-2-oxo-2-(tetrahydro-2-oxo-3-thienyl)amino)ethyl] ester [CAS]				
		94149-41-4	EP 120534	COPD treatment	Emphysema, general

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API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
midodrine	Acetamide, 2-amino-N-[2-(2,5-dimethoxyphenyl)-2-hydroxyethyl]- [CAS]	42318-58-0 42794-76-3	EP 164571	Urological	Incontinence
midostaurin	Benzamide, N-(2,3,10,11,12,13-hexahydro-10-methoxy-9-methyl-1-oxo-9,13-epoxy-1H,9H-diindolo[1,2,3-g:3',2',1'-limpyrolo[3,4-ij][1,7]benzodiazonin-11-yl)-N-methyl-, (9Alpha,10B,11B,13Alpha)- [CAS]	120685-11-2	EP 296110	Anticancer, other	Cancer, leukaemia, acute myelogenous
mifepristone	Estra-4,9-dien-3-one, 11-[4-(dimethylamino)phenyl]-17-hydroxy-17-(1-propynyl)-, (11B,17B)- [CAS]	84371-65-3	EP 57115	Abortifacient	Abortion
miglitol	3,4,5-Piperidine-1,1-(2-hydroxyethyl)-2-(hydroxymethyl)-, [2R-(2Alpha,3B,4Alpha,5B)]- [CAS]	72432-03-2	EP 55431	Antidiabetic	Diabetes, Type I
miglustat	3,4,5-Piperidine-1,1-butyl-2-(hydroxymethyl)-(2R-(2Alpha,3B,4Alpha,5B)) [CAS]	72599-27-0	DE 2758025	Metabolic and enzyme disorders	Gaucher's disease
mildronate	Hydrazinium, 2-(2-carboxyethyl)-1,1,1-trimethyl-, inner salt- [CAS]	76144-81-5	WO 8001068	Cardio stimulant	Heart failure
milnacipran	Cyclopropanecarboxamide, 2-(aminomethyl)-N,N-diethyl-1-phenyl-, cis-(4)-[CAS]	101152-94-7 92623-85-3	US 4478836	Antidepressant	Depression, general
miloxacin	[3,4'-Bipyridine]-5-carbonitrile, 1,6-dihydro-2-methyl-6-oxo- [CAS]	37065-29-5			
milrinone	Ethanaminium, 2-[[[hexadecyloxy]hydroxyphosphoryloxy]-N,N,N-trimethyl-, hydroxide, inner salt [CAS]	78415-72-2	US 4313951	Cardio stimulant	Heart failure
miltefosine	4-Morpholineethanamine, N-(4-methyl-6-phenyl-3-pyridazinyl)- [CAS]	53949-20-5 58068-85-6	EP 225608	Anticancer, other	Cancer, skin, general
minaprine		25905-77-5 25953-17-7	GB 1345880	Antidepressant	Depression, general

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minocycline	2-Naphthacene-4-carboxamide, 4,7-bis(dimethylamino)-1,4,4a,5,5a,6,11,12a-octahydro-3,10,12,12a-tetrahydroxy-1,11-dioxo-, [4S-(4 $\alpha$ ,12 $\alpha$ )]- [CAS]	10118-90-8		Formulation, optimized, microparticles	Infection, oral
minodronic acid	Phosphonic acid, (1-hydroxy-2-imidazo(1,2-a)pyridin-3-ylethylidene)bis-, [CAS]	180064-38-4	EP 354806	Anticancer, other	Cancer, myeloma
minoxidil	2,4-Pyrimidinediamine, 6-(1-piperidinyl)-, 3-oxide [CAS]	38304-91-5	US 4139619	Vasodilator, peripheral	Hypertension, general
Mikamycin		55881-07-7			
mirtazapine	Pyrazino[2,1-a]pyrido[2,3-c][2]benzazepine, 1,2,3,4,10,14b-hexahydro-2-methyl-[CAS]	85650-52-8 61337-67-5	GB 1543171	Antidepressant	Depression, general
misoprostol	Prost-13-en-1- $\alpha$ -ic acid, 11,16-dihydroxy-16-methyl-9-oxo-, methyl ester, (11 $\alpha$ ,13 $\epsilon$ )-(±)- [CAS]	59122-46-2 59122-48-4	US 4301146	Prostaglandin	Ulcer, gastric
mitomycin	Erythromycin, 8,9-didehydro-N-demethyl-9-deoxy-6,11-dideoxy-6,9-epoxy-12-O-methyl-N-(1-methylethyl)-11-oxo-, (2E)-2-butenedioate (2:1) [CAS]	154802-96-7	WO 9324509	Gastroprokinetic	Gastro-oesophageal reflux
mitiglinide	Calcium (2S)-2-benzyl-3-( <i>cis</i> -hexahydro-2-isoindolylmethyl)propionate, dihydrate- [CAS]	145525-41-3 488-41-5 459-86-9	EP 507534	Antidiabetic	Diabetes, Type II
Mitobronitol					
Mitoquazone					
mitolactol	Galactitol, 1,6-dibromo-1,6-dideoxy- [CAS]	10318-26-0	US 3993781	Anticancer, alkylating	Cancer, cervical

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mitomycin	Azirino[2,3':3,4]pyrrolo[1,2-a]indole-4,7-dione, 6-amino-8-[[[aminocarbonyloxy)methyl]-1,1a,2,8,8a,8b-hexahydro-8a-methoxy-5-methyl-, (1aS-(1aAlpha,8b,8aAlpha,8bAlpha))-] [CAS]	50-07-7		Formulation, parenteral, other	Cancer, stomach
<b>Mitotane</b>		53-19-0			
mitoxantrone	9,10-Anthracenedione, 1,4-dihydroxy-5,8-bis[2-(2-hydroxyethyl)amino]ethylamino]- [CAS]	65271-80-9 70476-82-3	US 4197249	Anticancer, other	Cancer, breast
mitoxantrone	9,10-Anthracenedione, 1,4-dihydroxy-5,8-bis[2-(2-hydroxyethyl)amino]ethylamino]- [CAS]	65271-80-9 70476-82-9		Formulation, optimized, liposomes Antiviral, other	Cancer, general Infection, hepatitis-B virus
MIV-210	(3'-Fluoro-2'-3'-dideoxy guanosine) Isoquinolinium, 2,2'-[1-(1,8-dioxo-4-octene-1,8-diyl)bis(oxy-3,1-propanediyl)]bis[1,2,3,4-tetrahydro-6,7-dimethoxy-2-methyl-1-[(3,4,5-trimethoxyphenyl)methyl]-, dichloride, [R*, R*-(E)]- [CAS]				
mitivacurium		106861-44-3	EP 181055	Muscle relaxant	Anaesthesia, adjunct
<b>Mivazerol</b>		125472-02-8			
mizolastine	4-(1H)-Pyrimidinone, 2-[[1-[1-(4-fluorophenyl)methyl]-1H-benzimidazol-2-yl]-4-piperidinyl]methylamino]- [CAS]	108612-45-9 50924-49-7	EP 217700	Antiallergic, non-asthma	Rhinitis, allergic, general
<b>Mizoribine</b>	(R)-N-(3-quinucidinyl)-7-oxo-4,7-dihydrothieno[3,2-b]pyridine-6-carboxamide hydrochloride	194093-42-0	JP 09216888	Gastroprokinetic	Gastro-oesophageal reflux
MIK-733	6-Oxa-2-azabicyclo[3.2.0]heptane-3,7-dione, 1-[(1S)-1-hydroxy-2-methylpropyl]-4-propyl-, (1R,4R,5S)- [CAS]				
MLN-519	4-Methoxy-benz(a)phenazine-11-carboxylic acid (2-(dimethylamino)-1-(R)-methyl)ethyl)-amide	211866-70-5	WO 9915183	Neuroprotective	Ischaemia, cerebral
MLN-576				Anticancer, other	Cancer, general

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imodobemide	Benzamide, 4-chloro-N-[2-(4-morpholinyl)ethyl]- [CAS]	71320-77-9	EP 326023	Antidepressant	Depression, general
imodafinil	Acetamide, 2-[(diphenylmethyl)sulfinyl]- [CAS]	68693-11-8	DE 2809625	Psychostimulant	Narcolepsy
imoxipril	3-Isouquinolinecarboxylic acid, 2-[2-[(1-ethoxycarbonyl)-3-phenylpropyl]amino]-1-oxopropyl]-1,2,3,4-tetrahydro-6,7-dimethoxy- (3S-(2(R*(R*)),3R*))- [CAS]	103775-10-6 103775-14-0	US 4344949	Antihypertensive, renin system	Hypertension, general
Mofarotene		125533-88-2			
Mofebutazone		2210-63-1			
Mofegiline		119386-96-8			
mofezolac	5-Isoxazoleacetic acid, 3,4-bis(4-methoxyphenyl)- [CAS]	78967-07-4	EP 26928	Analgesic, NSAID	Pain, post-operative
MOL-6131	N-[4-(aminomethyl)benzyl]-8(S)-1-[4-[2-(4-aminophenyl)-acetamidobutyl]piperidin-4-yl]-2-(naphthalen-1-ylmethyl)-1,3-dioxo-2,3,5,8-tetrahydro-1H-[1,2,4]triazolo[1,2-a]pyridazine-5(R)-carboxamide			Antisthma	Asthma
Molindone		7416-34-4			
molsidomine	Sydnone imine, N-(ethoxycarbonyl)-3-(4-morpholinyl)- [CAS]	25717-80-0	US 3769283	Vasodilator, coronary	
mometasone	Pregna-1,4-diene-3,20-dione, 9,21-dichloro-11,17-dihydroxy-16-methyl-, (11S,16A)- [CAS]	105102-22-5 83919-23-7	EP 57401	Antiinflammatory, allergic	Psoriasis
Monatepil		103377-41-9			
Monobenzone		103-16-2			
monolaurin	Dodecanoic acid, monoester with 1,2,3-propanetriol [CAS]	27215-39-9	US 4865282	Dermatological	Ichthyosis
montelukast	Cyclopropaneacetic acid, 1-[[1-[3-[2-(7-chloro-2-quinolinyl)ethenyl]phenyl]-3-[2-(1-hydroxy-1-methylethyl)phenyl]propyl]thio]methyl]-, [CAS]	151767-02-1 158966-92-8			
Monteplase		122007-85-6		Antisthma	Asthma



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Moperone	Carbamic acid, [10-[3-(4-morpholinyl)-1-oxopropyl]-10H-phenothiazin-2-yl]-, ethyl ester [CAS]	1050-79-9	US 3864487	Antiarrhythmic	Tachycardia, ventricular
Mopidamol		13665-88-8			
Moprolol		5741-22-0			
morazizine		29560-58-5 31883-05-3			
Morazone	Morphinan-3,6-diol, 7,8-didehydro-4,5-epoxy-17-methyl- (5 $\alpha$ ),6 $\alpha$ )-, [CAS]	6536-18-1	US 4337260	Formulation, parenteral, other Formulation, inhalable, systemic	Pain, cancer Pain, general
Moricizine		31883-05-3			
Moroxidine		3731-59-7			
Morphazinamide		952-54-5 57-27-2			
morphine	Spiro[imidazo[1,2-a]pyridine-3(2H),4'-piperidin]-2-one, 1'-[3-(3-chloro-10,11-dihydro-5H-dibenz[b,f]azepin-5-yl)propyl]hexahydro-, (+)-, [CAS]	6055-06-7 64-31-3	US 243959	GI inflammatory/bowel disorders	Gastritis
morphine-6-glucuronide		89419-40-9 98043-60-8			
mosapramine		112885-41-3 112885-42-4			
mosapride					
motexafin gadolinium	Gadolinium, bis(acetato-kappaO)(9,10-diethyl-20,21-bis(2-(2-(methoxy)ethoxy)ethoxy)-4,15-dimethyl-8,11-trimino-3,16:16,13-dinitro-1,18-benzodiazacycloicosine-5,14-dipropanalato-kappaN1, kappaN18, kappaN23, kappaN24, kappaN25), (PB-7-11-233'2'4) [CAS]	246252-06-2	EP	Radio/chemosensitizer	Cancer, brain
Motretinide		56281-36-8			
Movettipril		85856-54-8			
Moxalactam		64952-97-2			
Moxastine		3572-74-5			
Moxaverine		10539-19-2			
Moxestrol		34816-55-2			

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moxifloxacin	3-Quinolincarboxylic acid, 1-cyclopropyl-6-fluoro-1,4-dihydro-8-methoxy-7-(octahydro-6H-pyrrolo(3,4-b)pyridin-6-yl)-4-oxo-, hydrochloride (4aS-cs) [CAS]	186826-86-8 151096-09-2	DE 19546249	Quinolone antibacterial	Infection, respiratory tract, general
moxisylyte	Phenol, 4-[2-(dimethylamino)ethoxy]-2-methyl-5-(1-methylethyl)-, acetate (ester), [CAS]	964-52-3 54-32-0		Male sexual dysfunction	Impotence
moxonidine	6-Pyrimidinamine, 4-chloro-N-(4,5-dihydro-1H-imidazo(2-yl)-6-methoxy-2-methyl-[CAS]	75438-57-2	DE 2849537	Antihypertensive, other	Hypertension, general
M-PGA	(-)-(S)-2-Methyl-2-(1-oxo-2,3-dihydro-1H-isindol-2-yl)pentanedioic acid		US 5712291	Anticancer, other	Cancer, general
MPI-5010	Platinum diaminedichloro-, (SP-4-2) + (R)-4-[1-hydroxy-2-(methylamino)-ethyl]-1,2-benzenediol		US 6224883	Formulation, parenteral, other	Cancer, head and neck
MPI-5020	2,4-(1H,3H)-Pyrimidinedione, 5-fluoro-[CAS]	51-21-8	US 5750146	Formulation, parenteral, other	Cancer, breast
MPL		198076-81-2		Immunostimulant, other	Vaccine adjunct
MRS-1754			US 6060481	Antiasthma	Asthma
MS-209	1-Piperazineethanol, 4-(diphenylacetyl)-Alpha-[(5-quinolinyloxy)methyl]-, (2E)-2-butenedioate(2:3) (salt) [CAS]	158681-49-3		Radio/chemosensitizer	Cancer, breast
MS-275	N-(2-Aminophenyl)-4-[N-(pyridin-3-yl-methoxycarbonyl)aminomethyl]benzamide				
MS-325		201688-00-8	EP 839805	Anticancer, antimetabolite	Cancer, lung, general
MS-377				Neuroleptic	Schizophrenia
Mupirocin		12650-69-0			
Muscarine		300-54-9			
Muzolimine		55294-15-0			
MX-1013			US 6153591	Hepatoprotective	Unspecified

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mycophenolate mofetil	4-Hexenoic acid, 6-(1,3-dihydro-4-hydroxy-6-methoxy-7-methyl-3-oxo-5-isobenzofuranyl)-4-methyl-, 2-(4-morpholinyl)ethyl ester, (E)- [CAS]	116680-01-4 128794-94-5	WO 9119498	Immunosuppressant	Transplant rejection, general
mycophenolic acid	4-Hexenoic acid, 6-(1,3-dihydro-4-hydroxy-6-methoxy-7-methyl-3-oxo-5-isobenzofuranyl)-4-methyl-,	37415-62-6 24280-93-1		Formulation, oral, enteric-coated	Transplant rejection, general
Myrophine		467-18-5			
N-		3569-99-1			
(Hydroxymethyl)nicotina					
mido		83-81-8			
N,N,N',N'-		795-13-1			
Tetraethylphthalimide		53274-53-6			
Nz-Formylsulfisomidine		547-52-4			
N <sub>4</sub> -β-o-					
Glucosylsulfanilamide		51022-71-0			
N <sub>4</sub> -					
Sulfanilsulfanilamide		42924-53-8	GB 1476721	Anti-inflammatory	Arthritis, osteo
Nabilone	2-Butanone, 4-(6-methoxy-2-naphthalenyl)- [CAS]	616-91-1		Anticancer, other	Cancer, general
nabumetone	L-Cysteine, N-acetyl- [CAS]	65-82-7			
N-acetylcysteine					
N-Acetyl methionine					
nadifloxacin	1H,5H-Benzof[ <i>j</i> ]quinolizine-2-carboxylic acid, 9-fluoro-6,7-dihydro-8-(4-hydroxy-1-piperidinyl)-5-methyl-1-oxo-, (+)- [CAS]	124858-35-1	US 4399134	Quinolone antibacterial	Acne
nadrolol	2,3-Naphthalenediol, 5-[3-[(1,1-dimethyl)ethyl]amino]-2-hydroxypropoxy]-1,2,3,4-tetrahydro- [CAS]	42200-33-9	US 4346106	Antihypertensive, adrenergic	
Nadoxolol		54063-51-3			

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nafamostat	Benzoic acid, 4- [(aminoininomethyl)amino]-, 6- [(aminoininomethyl)-2-naphthalenyl ester- [CAS]	80251-32-7 81525-10-2 82956-11-4	EP 450232	GI inflammatory/bowel disorders	Pancreatitis
nafarelin	Luteinizing hormone-releasing factor (pig), 6-[3-(2-naphthalenyl)-D-alanine]-[CAS]	76932-56-4 86220-42-0	EP 21234	Releasing hormones	Endometriosis
Nafcilin		147-52-4			
Nafrotyl		31329-57-4			
nafidrofuryl	2-Furanpropanoic acid, tetrahydro- $\alpha$ - (1-naphthalenylmethyl)-, 2- (diethylamino)ethyl ester	31329-57-4 65472-88-0 65473-14-5	US 4282251	Formulation, modified-release, other Antifungal	Unspecified Infection, dermatological
naftifine	1-Naphthalenemethanamine, N-methyl-N- (3-phenyl-2-propenyl)-, (E)- [CAS]				
naftopidil	1-Piperazineethanol, 4-(2-methoxyphenyl)- $\alpha$ -(1-naphthalenylmethoxy)methyl- [CAS]	57149-07-2	US 3997666	Antihypertensive, adrenergic	Hypertension, general
nalbuphine	Morphinan-3,6,14-triol, 17- (cyclobutylmethyl)-4,5-epoxy, (5 $\alpha$ ), 6 $\alpha$ )- [CAS]	20594-83-6 23277-43-2 389-08-2	US 3393197	Analgesic, other	Pain, general
Nalidixic Acid	Morphinan-3,14-diol, 17- (cyclopropylmethyl)-4,5-epoxy-6- methylene-, (5 $\alpha$ )- [CAS]	55096-26-9 62-67-9	JP 56167687	Dependence treatment	Poisoning, drug
nalmeferone					
Nalorphine	Morphinan-6-one, 17-allyl-4,5 $\alpha$ -epoxy- 3,14-dihydroxy-, hydrochloride [CAS]	357-08-4 465-65-6		Septic shock treatment	
naloxone					
naltrexone	Morphinan-6-one, 17-(cyclopropylmethyl)- 4,5-epoxy-3,14-dihydroxy-, (5 $\alpha$ )- [CAS]	16590-41-3 16676-29-2	US 3332950	Dependence treatment	Addiction, narcotic/opiate
NAMI	Imidazolium trans(imidazole)(dimethylsulfoxide)tetrachloro- orthenate (III)			Anticancer, other	Cancer, general

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namindil	Guanidine, N-cyano-N'-(4-cyanophenyl)-N'-[(1R)-1,2,2-trimethylpropyl]-[CAS]	220641-11-2		Dermatological	Alopecia, general
<b>Nandrolone</b>		434-22-0			
<b>Naphazoline</b>		835-31-4			
<b>Naphthalene</b>		91-20-3			
naproxen betainate	Methanaminium, 1-carboxy-N, N, N-trimethyl- salt with (R)-6-methoxy- $\alpha$ -methyl-2-naphthaleneacetic acid (1:1), sodium salt [CAS]	104124-26-7	US 4672077	Antiarthritic, other	Arthritis, rheumatoid
naproxen	2-Naphthaleneacetic acid, 6-methoxy- $\alpha$ -methyl-, [CAS]	26159-34-2	GB 1211134	Analgesic, NSAID	Pain, general
naratriptan	1H-Indole-5-ethanesulfonamide, N-methyl-3-(1-methyl-4-piperidinyl)- [CAS]	22204-53-1	EP 303507	Antimigraine	Migraine
<b>Narceline</b>		131-28-2			
<b>Narcobarbital</b>		125-55-3			
<b>Natamycin</b>		7681-93-8			
nateglinide	D-phenylalanine, N-((4-(1-methylethyl)cyclohexyl)carbonyl)-, trans-[CAS]	105816-04-4	EP 196222	Antidiabetic	Diabetes, Type II
<b>N-Butyldoxynojirimycin</b>		72599-27-0			
<b>N-Butylscopolammonium Bromide</b>		149-64-4			
NC-503			US 5643562	Anti-inflammatory	Amyloidosis
NC-531			US 5643562	Cognition enhancer	Alzheimer's disease
NCX-1000			WO 0061604	Hepatoprotective	Cirrhosis, hepatic
NCX-4016	Benzoic acid, 2-(acetyloxy)-, 2-((nitroxy)methyl)phenyl ester [CAS]	175033-36-0	WO 9716405	Symptomatic antidiabetic	Insulin-related metabolic syndrome
NCX-456	Benzoic acid, 5-amino-2-hydroxy-, 4-(nitroxy)butyl ester [CAS]	256499-26-0		GI inflammatory/bowel disorders	Inflammatory bowel disease

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NCX-950	Alpha'-[[(1,1-dimethylethyl)amino]methyl]-4-hydroxy-1,3-benzenedimethanol nitrate			Antiasthma	Asthma
n-Docosanol		661-19-8			
NE-100	Benzeneethanamine, 4-methoxy-3-(2-phenylethoxy)-N,N-dipropyl-, hydrochloride [CAS]	149409-57-4	WO 9307113	Neuroleptic	Schizophrenia
Nealbarbital		561-83-1			
nebitivolol	2H-1-Benzopyran-2-methanol, Alpha,Alpha'-[iminobis(methylene)]bis(6-fluoro-3,4-dihydro)-, (2R'(R*(S')))-(1+)- [CAS]	118457-14-0 99200-09-6	EP 145067	Antihypertensive, adrenergic	Hypertension, general
nebotinrel	NT-(4,4-Dimethylcyclohexyl)-L-isoglutamine	163000-63-3	EP 0688312	Cognition enhancer	Unspecified
Nebracetam		97205-34-0			
nedaplatin	Platinum, diammine[hydroxyacetato(2-)-O1,O2]-, (SP-4-3)- [CAS]	95734-82-0	EP 216362	Anticancer, alkylating	Rhinitis, allergic, general, Ocular disorder, general
nedocromil	4H-Pyran[3,2-g]quinoline-2,8-dicarboxylic acid, 9-ethyl-6,9-dihydro-4,6-dioxo-10-propyl- [CAS]	69049-73-6 69049-74-7	EP 555718	Antiasthma, Ophthalmological	
nefazodone	3H-1,2,4-Triazol-3-one, 2-[3-(4-(3-chlorophenyl)-1-piperazinyl)propyl]-5-ethyl-2,4-dihydro-4-(2-phenoxylethyl)-, [CAS]	82752-99-6 83366-66-9	US 4338317	Antidepressant	Depression, general
nefiracetam	1-Pyrrolidineacetamide, N-(2,6-dimethylphenyl)-2-oxo- [CAS]	77191-38-7	US 4341790	Cognition enhancer	Dementia, senile, general
nefopam	1H-2,5-Benzoxazocine, 3,4,5,6-tetrahydro-5-methyl-1-phenyl- [CAS]	13689-70-0 23327-57-3	US 3487153	Analgesic, NSAID	
Negamycin		33404-78-3			
nefinavir	3-Isoquinolinecarboxamide, N-(1,1-dimethylethyl)decahydro-2-(2-hydroxy-3-((3-hydroxy-2-methylbenzoyl)amino)-4-(phenylthio)butyl)-, (3S-(2(2S',3S')3Alpha,4aβ,8aβ))-, [CAS]	159989-65-8 159989-64-7		Antiviral, anti-HIV	Infection, HIV/AIDS
Nemonapride		75272-39-8			
Neostigmine		59-99-4			

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nepadutant	Cyclo[3-amino-L-alanyl-L-leucyl-N-[2-(acetylamino)-2-deoxy-β-D-glucopyranosyl]-L-asparaginyl-L-Alpha-aspartyl-L-tyrosyl-L-phenylalanyl], (4-1)-lactam [CAS]	183747-35-5	WO 9628467	Antiasthma	Asthma
neramexane	1,3,3,5,5-pentamethylcyclohexylamine	202807-80-3 219810-59-0		Dependence treatment	Addiction, alcohol
neridronic acid	Phosphonic acid, (6-amino-1-hydroxyhexylidene)bis- [CAS]	79778-41-9		Musculoskeletal	Osteogenesis imperfecta
Nerifolin		466-07-9			
N-Ethylamphetamine		457-87-4			
neticonazole	1H-imidazole, 1-[2-(methylthio)-1-[2-(pentyloxy)phenyl]ethenyl]-, monohydrochloride, (E)- [CAS]	130773-02-3 130726-68-0	EP 445540	Antifungal	Infection, Candida, general
netilmicin	D-Streptamine, O-3-deoxy-4-C-methyl-3-(methylamino)-β-L-arabinopyranosyl-(1-6)-O-[2,6-diamino-2,3,4,6-tetra-deoxy-Alpha-D-glycero-hex-4-enopyranosyl-(1-4)]-2-deoxy-N1-ethyl- [CAS]	56391-56-1 56391-57-2	GB 1473733	Aminoglycoside antibiotic	Infection, general
nevirapine	6H-Dipyrido[3,2-b:2',3'-e][1,4]diazepin-6-one, 11-cyclopropyl-5,11-dihydro-4-methyl- [CAS]	129618-40-2	EP 429987	Antiviral, anti-HIV	Infection, HIV/AIDS
NGD-98-2		51-12-7	WO 9635689	Anxiolytic	Anxiety, general
Nialamide		27367-90-4			
Nlaprazine		3099-52-3			
Nicametate		79455-30-4	EP 28602	Neuroprotective	Haemorrhage, subarachnoid
nicaraven	3-Pyridinecarboxamide, N,N'-(1-methyl-1,2-ethanediy)bis- [CAS]				
nicardipine	3,5-Pyridinedicarboxylic acid, 1,4-dihydro-2,6-dimethyl-4-(3-nitrophenyl)-, methyl 2-[methyl(phenylmethyl)amino]ethyl ester [CAS]	54527-84-3 55985-32-5	US 3985758	Neuroprotective	Hypertension, general
nicergoline	Ergoline-8-methanol, 10-methoxy-1,6-dimethyl-, (8b)-, 5-bromo-3-pyridinecarboxylate(ester)	27848-84-6		Formulation, modified-release, other	Unspecified

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API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
Nicritrol		5868053			
Niclosamide		50-65-7			
Nicoclonate		10571-59-2			
Nicofuranose		15351-13-0			
Nicomol		27959-28-8			
Nicomorphine		639-48-5			
nicorandil	3-Pyridinecarboxamide, N12-(nitroxy)ethyl-, [CAS]	65141-46-0	US 4792564	Vasodilator, coronary	Hypertension, general
Nicotinamide		98-92-0			
nicotine	Pyridine, 3-(1-methyl-2-pyrrolidinyl)-, (S)- [CAS]	54-11-5		Formulation, inhalable, other	Addiction, nicotine
Nicotinic Acid		59-67-6			
Nicotinic Acid Benzyl Ester		94-44-0			
Nicotinyl Alcohol		100-55-0			
nifedipine	4-(2-nitrophenyl)-2,6-dimethyl-3,5-dicarboxomethoxy-1,4-dihydropyridine	21829-25-4	GB 1173862	Vasodilator, coronary	Hypertension, general
nifekalant	2,4-(1H,3H)-Pyrimidin-6-yl-[2-[(2-hydroxyethyl)]3-(4-nitrophenyl)propyl]amino]ethyl]amino]-1,3-dimethyl-, [CAS]	130638-43-0 130656-51-8	EP 369627	Antiarrhythmic	Arrhythmia, general
Nifenalol		7413-36-7			
Niflumic Acid		4394-00-7			
Nifuratel		4936-47-4			
Nifurfoline		3363-58-4			
Nifuroxazide		965-52-6			
Nifuroxime		6236051			
Nifurpirinol		13411-16-0			
Nifurprazine		1614-20-6			
Nifurtimox		23256-30-6			
Nifurtinolol		1088-92-2			



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nifurazole	2-[3,5-dinitro-2-furanyl]-2-propenylidenelhydrazide [CAS]	39978-42-2	US 3847911	Antidiarrhoeal	Infection, GI tract
NIK-254	Gentamicin, sulfate (salt) [CAS]	1405-41-0		Formulation, other	Infection, general
Nikethamide		59-26-7			
niflutamide	2,4-Imidazolidinedione, 5,5-dimethyl-3-(4-nitro-3-(trifluoromethyl)phenyl) [CAS]	63612-50-0	US 4472382	Anticancer, hormonal	Cancer, prostate
nifradipine	3,5-Pyridinedicarboxylic acid, 2-cyano-1,4-dihydro-6-methyl-4-(3-nitrophenyl)-, 3-methyl 5-(1-methylethyl) ester [CAS]	75530-68-6	US 4338322	Antihypertensive, other	Hypertension, general
nimesulide	Methanesulfonamide, N-(4-nitro-2-phenoxyphenyl)- [CAS]	51803-78-2	US 3840597	Anti-inflammatory	Pain, general
Nimetazepam		2011-67-8			
ninodipine	3,5-Pyridinedicarboxylic acid, 1,4-dihydro-2,6-dimethyl-4-(3-nitrophenyl)-, 2-methoxyethyl 1-methylethyl ester [CAS]	66085-59-4	EP 533014	Neuroprotective	
Nimorazole	Urea, N-[(4-amino-2-methyl-5-pyrimidinyl)methyl]-N-(2-chloroethyl)-N-nitroso- [CAS]	6505-37-2 103745-00-2 42471-28-3			
ninmustine		55661-38-6	GB 1374344	Anticancer, alkylating	Cancer, brain
Ninopterin		2179-18-0			
NIP-142	N-[4(S)-(Cyclopropylamino)-3-(R)-hydroxy-2,2-dimethyl-7-nitro-3,4-dihydro-2H-1-benzopyran-6-yl]-4-methoxybenzenesacetamide		WO 9804542	Antiarrhythmic	Fibrillation, atrial
NIP-531	N-[3,5-Bis(trifluoromethyl)benzyl]-N-[3-[N-[1-(4-fluorobenzyl)benzimidazol-2-yl]-amino]propyl-N-methylurea hydrochloride			Antipruritic/inflam, allergic	Eczema, atopic
niperoldine	N-[2-[(5-[(dimethylamino)methyl]furfuryl]thio)ethyl]-2-nitro-N'-piperonyl-1,1-ethenediamine	84845-75-0	GB 2104071	Antitumor	Ulcer, GI, general

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nipradilol	2H-1-Benzopyran-3-ol, 3,4-dihydro-8-[2-hydroxy-3-[(1-methylethyl)amino]propyl]-, 3-nitrate [CAS]	81486-22-8 86247-86-1 61-57-4	EP 42299	Formulation, mucosal, topical	Glaucoma
<b>Nitidazole</b>	3,5-Pyridinedicarboxylic acid, 1,4-dihydro-2,6-dimethyl-4-(2-nitrophenyl)-, methyl 2-methylpropyl ester- [CAS]	63675-72-9	GB 1516793	Antihypertensive, other	Hypertension, general
nisoldipine	Benzamide, 2-(acetyloxy)-N-(5-nitro-2-thiazolyl)- [CAS]	55981-09-4	US 5387598	Protozoacide	Infection, GI tract
nitazoxanide	1,3-Cyclohexanedione, 2-[2-nitro-4-(trifluoromethyl)benzoyl]- [CAS]	104206-65-7	EP 186118	Metabolic and enzyme disorders	Cirrhosis, hepatic
nitisinone	1,3-Propanediamine, N,N-dimethyl-N'-(1-nitro-9-acridinyl)- [CAS]	4533-39-5 6514-85-8 146-22-5	FR 1458183	Anticancer, other	Cancer, ovarian
<b>Nitrazepam</b>	3,5-Pyridinedicarboxylic acid, 1,4-dihydro-2,6-dimethyl-4-(3-nitrophenyl)-, ethyl methyl ester- [CAS]	39562-70-4	GB 1358951	Antihypertensive, other	Hypertension, general
nitrendipine	(1,1'-Biphenyl)-4-acetic acid, 2-fluoro-Alpha-methyl-, 4-(nitrooxy)butyl ester [CAS]	158836-71-6 67-20-9 59-87-0 55-63-0 133-58-4	EP 670825	Urological	Incontinence
nitroflurbiprofen	1,2,3-Propanetriol, trinitrate [CAS]			Formulation, transdermal, patch	Angina, general
<b>Nitrofurantoin</b>	2-Naphthaleneacetic acid, 6-methoxy-Alpha-methyl 4-(nitrooxy)butyl ester (AlphaS)- [CAS]	163133-43-5	WO 9509831	Analgesic, NSAID	Pain, post-operative
<b>Nitrofurazone</b>	Dibenzof[1,4]oxazepin-11(10H)-one, 10-[9-(dimethylamino)propyl]-2-nitro-, monohydrochloride [CAS]	16398-39-3 4008-48-4	NL 6608671	Antidepressant	
nitroglycerin	1,1-Ethenediamine, N-[2-[[[2-(dimethylamino)methyl]-4-thiazolyl]methyl]thio]ethyl]-N'-methyl-2-nitro- [CAS]	76963-41-2	EP 49618	Antitumor	Ulcer, duodenal
<b>Nitromersol</b>					
nitronaproxen					
nitroxazepine					
<b>Nitroxoline</b>					
nizatidine					

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Nizofenone	3-(2-methylcarboxymethyl)-6-methoxy-8-hydroxy-isocoumarin	54533-85-6	JP 08176138	Anticancer, other	Cancer, general
NM-3	4-Bromo-5-(3-pyridylmethylamino)-6-[3-(4-chlorophenyl)propoxy]-3(2H)pyridazinone hydrochloride				
NM-702					
N-Methylephedrine		552-79-4			
N-Methylepinephrine		554-99-4	WO 9320055	Antithrombotic	Peripheral vascular disease
N-Methylglucamine		6284-40-8			
NN-414	6-chloro-3-(1-methylcyclopropylamino)-4H-thieno[3,2-e][1,2,4]thiadiazine-1,1-dioxide				
NNC-05-1869	(R)-1-(3-(10,11-dihydro-5H-dibenzo[a,d]cyclohepten-5-ylidene)-1-propyl)-3-piperidine carboxylic acid		WO 9529147	Antidiabetic	Diabetes, Type II
Nogalamycin	4-(1H)-Quinazolinone, 2-amino-6-methyl-5-(4-pyridinylthio)-, [CAS]	1404-15-5			
notatrexed	Propanoic acid, 2-methyl-, 5,6,7,8-tetrahydro-6-(methylamino)-1,2-naphthalenediyl ester, hydrochloride, (+)-[CAS]	152948-88-4 147149-76-6			
notomirole	1-Azoniabicyclo[2.2.2]octane, 1-[2-[3-(4-dichlorophenyl)-1-[3-(1-methylethoxy)phenyl]acetyl]-3-piperidinyl]ethyl-4-phenyl-, chloride, (S)-[CAS]	138531-51-8			
notpitanium	19-Norpregna-4,6-diene-3,20-dione, 17-(acetoxy)-6-methyl-, [CAS]	153050-21-6	EP 591040	Cardio stimulant	Heart failure
notmegestrol					
Nomifensine		58652-20-3			
Noprylsulfamide		24526-64-5			
Norbolethone		576-97-6	OE 2522533	GI inflammatory/bowel disorders	Inflammatory bowel disease
		1235-15-0			
				Menstruation disorders	Menstrual disorder, general

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Nordazepam		1088-11-5			
Nordefrin		6539-57-7			
		(unspecified); 74812-63-8			
		(R*,S*)-(±)- form			
Nordihydroguaiaretic Acid		27686-84-6			
		(meso-form); 500-38-9			
		(unspecified)			
Norelgestromin, Ethinyl Estradiol		51-41-2			
Norepinephrine		52-78-8			
Norethandrolone		68-22-4			
Norethindrone		68-23-5			
Norethynodrel		536-21-0			
Norfenefrine					
norfloxacin	3-Quinolonecarboxylic acid, 1-ethyl-6-fluoro-68077-27-0 1,4-dihydro-4-oxo-7-(1-piperazinyl)- [CAS]	70458-96-7	US 4146719	Quinolone antibacterial	Infection, general
Norgesterone		13563-60-5			
Norgestimate		35189-28-7			
Norgestrel		6533-00-2			
Norgestrienone		848-21-5			
Norlevorphanol		1531-12-0			
Normethadone		467-85-6			
Normethandrone		514-61-4			
Normorphine		466-97-7			
Norphenazone		89-25-8			
Norpipanone		561-48-8			
Norpseudoephedrine		492-39-7			
Nortriptyline		72-69-5			
Norvinisterone		6795-60-4			

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Noscapine	Butanoic acid, 2-[[[5-[4-((dimethylamino)sulfonyl]phenyl)-1,2,6,7,8,9-hexahydro-8-methyl-2-oxo-3H-pyrrolo[3,2-h]isoquinolin-3-ylidene]amino]oxy]-3-hydroxy- [CAS]	128-62-1			
Novembichin		1936-40-9			
Novobiocin		303-81-1			
Noxiptilin		3362-45-6			
Noxythiolin		15599-39-0			
NS-1209	5-(4-chlorophenyl)-6,7,8,9-tetrahydro-1H-pyrrolo-(3,2-h)naphthalene-2,3-dione-3-oxime	254751-28-5	WO 9426747	Antiepileptic	Epilepsy, general
NS-1231					
NS-126	2-Methyl-o-5-[4-[5-methyl-2-(4-methylphenyl)-4-oxazoly]butyl]-1,3-dioxane-r-2-carboxylic acid		US 5063222	Neuroprotective Antiallergic, non-asthma	Ischaemia, cerebral Rhinitis, allergic, general
NS-220					
NS-2330	NS 2330 [CAS]	402856-42-2		Hypotipaemic/Antiatherosclerosis Cognition enhancer	Atherosclerosis Alzheimer's disease
NS5A inhibitors			US 6030785	Antiviral, other	Infection, hepatitis-C virus
NS-7	Pyrimidine, 4-(4-fluorophenyl)-2-methyl-6-[[[5-(1-piperidinyl)pentyl]oxy]-monohydrochloride [CAS]	178429-67-9	WO 9607641	Neuroprotective	Ischaemia, cerebral
NS-8	2-Amino-5-(2-fluorophenyl)-4-methyl-1H-pyrrole-3-carbonitrile			Urological	Incontinence
NSC-330507	17-Allylaminogeldanamycin			Anticancer, antibiotic	Cancer, general
NSC-619534	2-chloroethyl phenyl selenone 2,5-diaziridinyl-3-[hydroxymethyl]5-methyl-1,4-benzoquinone			Anticancer, alkylating	Cancer, general
NSC-697726				Anticancer, antibiotic	Cancer, general
N-Sulfanilyl-3,4-xylamide		120-34-3			

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NU-6027	2,4-Pyrimidinediamine, 6-(cyclohexylmethoxy)-5-nitroso- [CAS]	220036-08-8		Anticancer, other	Cancer, general
NU-07	2,4,6-(1H,3H,5H)-Pyrimidinetrione, 5-ethyl-5-oxo-pentyl-, 2-oxime [CAS]	53745-16-7	US 6455032	Antipruritic/inflamm, non-allergic	Keratosis
NVP-SRA880	[(3R,4aR,10aR)-1,2,3,4,4a,5,10,10a-Octahydro-6-methoxy-1-methyl-benz[9]quinoline-3-carboxylic acid-4-(4-nitrophenyl)piperazine amide, hydrogen maleate			Neurological	Unspecified
NW-1029	(S)-(+)-2-[4-(2-fluorobenzoyloxy)benzylamino]propanamide methanesulfonate				
NUY-059	CPI 22 [CAS]	168021-79-2	US 5780510	Analgesic, other Neuroprotective	Pain, general Ischaemia, cerebral
Nylidrin		447-41-6			
NZ-314	1-Imidazolidineacetic acid, 3-[(3-nitrophenyl)methyl]-2,4,5-trioxo- [CAS]	128043-99-2	EP 353198	Symptomatic antidiabetic	Neuropathy, diabetic
NZ-419	5-hydroxy-1-methylimidazolidine-2,4-dione		EP 412940	Urological	Renal failure
Obidoxime Chloride		114-90-9			
OC-108	OC 108 [CAS]	162602-82-2		Vasoprotective, topical	Venous insufficiency
octaplon	Methanone, 2-pyridinyl[7-(4-pyridinyl)pyrazolo[1,5-a]pyrimidin-3-yl]- [CAS]	96804-21-6	EP 129847	Anxiolytic	Generalized anxiety disorder
Octabenzone		1843-05-6			
Octacaine		13912-77-1			
Octamoxin		4684-87-1			
Octaverine		549-68-8			
octandine		70775-75-8			
	1-Octanamine, N,N'-(1,10-decanediyl)-1(4H)-pyridinyl-4-ylidene]bis- [CAS]	71251-02-0			
		86767-75-1	WO 8705501	Stomatological	Periodontitis
Octodrine		543-82-8			
Octopamine		104-14-3			
Octotiamine		137-86-0			

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octreotide	L-Cysteinamide, D-phenylalanyl-L-cysteinyl-L-phenylalanyl-D-tyrosyl-L-lysyl-L-threonyl-N-[2-hydroxy-1-(hydroxymethyl)propyl]-, cyclic (2-7)-disulfide, [R-(R*, R*)]- [CAS]	83150-76-9		Formulation, fixed-dose combinations	Cancer, general
Octyl		5466-77-3			
Methoxycinnamate					
ofloxacin	7H-Pyrido[1,2,3-d]1,4-benzoxazine-6-carboxylic acid, 9-fluoro-2,3-dihydro-3-methyl-10-(4-methyl-1-piperazinyl)-7-oxo-, (+/-)- [CAS]	82419-38-1	EP 47005	Quinolone antibacterial	
o-Iodohippurate		133-17-5			
olanzapine	10H-Thieno(2,3-b)(1,5)benzodiazepine, 2-methyl-4-(4-methyl-1-piperazinyl)- [CAS]	132539-06-1	EP 454436	Neuroleptic	Schizophrenia
Oleandrin		465-16-7			
Oleic Acid		112-80-1			
olmesartan medoxomil	1H-Imidazole-5-carboxylic acid, 4-(1-hydroxy-1-methylethyl)-2-propyl-1-((2-(1H-tetrazol-5-yl)(1,1'-biphenyl)-4-yl)methyl)-, (S-methyl-2-oxo-1,3-dioxol-4-yl) methyl ester [CAS]	144889-63-4	EP 503785	Antihypertensive, renin system	Hypertension, general
olopatadine	11-((Z)-3-(Dimethylamino)propylidene)-6,11-dihydrodibenz[b,e]oxepin-2-acetic acid, monohydrochloride	113806-05-6 140462-76-6	EP 235796	Ophthalmological	Conjunctivitis
opadronic acid	Monosodium 3-dimethylamino-1-(hydroxypropylidene)-1,1-bisphosphonate	63132-39-8	WO 9619998	Osteoporosis treatment	Osteoporosis
osalazine	Benzoic acid, 3,3'-azobis[6-hydroxy- [CAS]	15722-48-2 53200-51-4	US 4559330	GI inflammatory/bowel disorders	Colitis, ulcerative
olipitraz	3H-1,2-Dithiole-3-thione, 4-methyl-5-pyrazinyl- [CAS]	64224-21-1	DE 2705641	Anticancer, other	Cancer, general

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OM-294DP	2-[3(R)-(Dodecanoyloxy)tetradecanamido]-N-[4-(3(R)-hydroxytetradecanamido)-5-(phosphonooxy)pentyl]-4-(phosphonooxy)butyramide			Anticancer, immunological	Unspecified
	ethyl (5Z,8Z,11Z,14Z,17Z)-eicosa-5,8,11,14,17-pentaenoate + ethyl (4Z,7Z,10Z,13Z,16Z,19Z)-docosa-4,7,10,13,16,19-hexaenoate	81928-94-5 86227-47-6			
Onacor	7H-Pyrido(2,1-b)(1,3)thiazepine-7-carboxylic acid, octahydro-4-[(2-mercapto-1-oxo-3-phenylpropyl)amino]-5-oxo, (4S-(4Alpha(R*),7Alpha,10ab))- [CAS]	167305-00-2	US 5508272	Antihypertensive, renin system	Hypertension, general
omeprazole	1H-Benzimidazole, 5-methoxy-2-[[4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]- [CAS]	73590-58-6	US 4255431	Antilulcer	Ulcer, GI, general
omiloxetine	Ethanone, 2-[(3R,4S)-3-[(1,3-benzodioxol-5-yloxy)methyl]-4-(4-fluorophenyl)-1-piperidinyl]-1-(4-fluorophenyl)-, reb- [CAS]	176894-09-0		Antidepressant	Depression, general
omoconazole	1H-Imidazole, 1-[2-[2-(4-chlorophenoxy)ethoxy]-2-(2,4-dichlorophenyl)-1-methylethenyl]-, (Z)- [CAS]	74512-12-2	EP 8804	Antifungal	Infection, dermatological
Onapristone	4H-Carbazol-4-one, 1,2,3,9-tetrahydro-9-methyl-3-[(2-methyl-1H-imidazol-1-yl)methyl]- [CAS]	96346-61-1			
ondansetron	Benzoic acid, 4-[(1E)-3-[(2-ethoxy-2-oxoethyl)-2-propenylamino]-2-methyl-3-oxo-1-propenyl]-, 4-(aminomethyl)phenyl ester, monomethanesulfonate [CAS]	99614-01-4 99614-02-5	US 4847281	Antiemetic	Chemotherapy-induced nausea and vomiting
ONO-3403		181586-07-2		GI inflammatory/bowel disorders	Unspecified



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ONO-4128	1,4,9-Triazaspiro(5.5)undecane-2,5-dione, 1-butyl-3-(cyclohexylmethyl)-9-((2,3-dihydro-1,4-benzodioxin-6-yl)methyl)- [CAS]	342394-93-8		Antiviral, anti-HIV	Infection, HIV/AIDS
ONO-8815 Ly	L-lysine (Z)-7-((1R,2R,3R,5R)-5-chloro-3-hydroxy-2-((E)-S)-4-(1-ethylcyclobutyl)-4-hydroxy-1-butenyl)cyclopentyl]-5-heptanoate		US 5756527	Labour inhibitor Radio/chemosensitizer	Labour, preterm Cancer, general
OPC-14523	2-(1H)-Quinolinone, 1-[3-(4-chlorophenyl)-1-piperazinyl]propyl-3,4-dihydro-5-methoxy- [CAS]	145969-30-8	EP 512525	Antidepressant	Depression, general
OPC-31260	Benzamide, N-[4-[[5-(dimethylamino)-2,3,4,5-tetrahydro-1H-1-benzazepin-1-yl]carbonyl]phenyl]-2-methyl-	137875-06-5	WO 9105549	Urological	Unspecified
OPC-51803	(5R)-2-[1-(2-chloro-4-(1-pyrolidinyl)benzoyl)-2,3,4,5-tetrahydro-1H-1-benzazepin-5-yl]-N-isopropylacetamide				
OPC-6535	2-Pyridinecarboxylic acid, 6-[2-(3,4-diethoxyphenyl)-4-thiazolyl]- [CAS]	145739-56-6	WO 9209586	Antidiabetic GI inflammatory/bowel disorders	Diabetes, insipidus Inflammatory bowel disease
Opinlazide	2-(4-trifluoromethylphenyl)-N-methyl-1-phenyl-2-(1-pyrolidinyl)ethylacetamide	2779-55-7			
opioid analgesics					
Opipramol		315-72-0			
Orazamide		2574-78-9		Analgescic, other	Pain, general
orazipone	2,4-Pentanedione, 3-((4-methylsulfonyl)phenyl)methylene)- [CAS]	137109-78-5	EP 440324	Antiasthma	Unspecified
Org-12962	Piperazine, 1-[6-chloro-5-(trifluoromethyl)-2-pyridinyl]- monohydrochloride [CAS]	210821-63-9		Antidepressant	Depression, general
Org-24448			US 6166008	Neuroleptic	Schizophrenia

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oritavancin	Vancanycin, 22-O-(3-amino-2,3,6-trideoxy-3-C-methyl-Alpha-L-arabinohexopyranosyl)-N3'-[(4'-chloro[1,1'-biphenyl]-4-yl)methyl]-, (4'R)- [CAS]	171099-57-3	US 5840684	Peptide antibiotic	Infection, dermatological
orlistat	L-Leucine, N-formyl-, 1-[(3-hexyl-4-oxo-2-oxetanyl)methyl]dodecyl ester, [2S-[2Alpha(R*),3G]]- [CAS]	96829-58-2	EP 129748	Anorectic/Antiobesity	Obesity
ormeloxifene	Pyridine, 1-[2-(p-(7-methoxy-2,2-dimethyl-3-phenyl-4-chromanyl)phenoxy)ethyl]-, trans- [CAS]	31477-60-8	DE 2329201	Female contraceptive	Contraceptive, female
Omidazole		16773-42-5			
Ompipressin		3397-23-7			
Ornithine		70-26-8			
ormoprostil	Prost-13-en-1-oic acid, 11,15-dihydroxy-17,20-dimethyl-6,9-dioxo-, methyl ester, (11Alpha,13E,15S,17S)- [CAS]	70667-26-4	US 4278688	Prostaglandin	Ulcer, gastric
Orotic Acid		65-86-1			
Orphenadrine		83-98-7			
Orthocaine		538-25-4			
Osalmid		526-18-1			
osanelant	Acetamide, N-[1-[3-(3R)-1-benzoyl-3-(3,4-dichlorophenyl)-3-piperidinyl]propyl]-4-phenyl-4-piperidinyl-N-methyl- [CAS]	160492-56-8	EP 673928	Neuroleptic	Schizophrenia
osaterone	2-Oxapregna-4,6-diene-3,20-dione, 17-(acetyloxy)-6-chloro- [CAS]	105149-00-6	EP 193871	Prostate disorders	Benign prostatic hyperplasia
oseltamivir	1-Cyclohexene-1-carboxylic acid, 4-(acetamidino)5-amino-3-(1-ethoxypropoxy)-ethyl ester, (3R-(3Alpha,4S,5Alpha))- [CAS]				
OSI-7836	4'-Thio-3-D-arabino-furanosylcytosine	196618-13-0	WO 9826933	Antiviral, other	Infection, influenza virus
				Anticancer, antidiabetic	Cancer, general

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API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
OSI-7904	Pentanedioic acid, 2-[5-[(1,2-dihydro-3-methyl-1-oxobenzof[quinazolin-9-yl)methyl]amino]-1,3-dihydro-1-oxo-2H-isoindol-2-yl]-, (S)- [CAS]	139987-54-5	WO 9119700	Formulation, optimized, liposomes	Cancer, general
ospemifene	Ethanol, 2-[4-[(1Z)-4-chloro-1,2-diphenyl-1-butenyl]phenoxy]- [CAS]	128607-22-7	WO 9607402	Menopausal disorders	Osteoporosis
elotium bromide	Ethaniminium, N,N-diethyl-N-methyl-2-[4-[[2-(octyloxy)benzoyl]amino]benzoyloxy]-bromide [CAS]	26085-59-0	GB 1181406	Antispasmodic	Irritable bowel syndrome
Quabain		630-60-4			
Oxaceprol		33996-33-7			
Oxacillin		66-78-5			
Oxaflozane		26629-87-8			
oxaliplatin	Platinum, (1,2-cyclohexanediamine-N,N'')ethanedioate(2-)-O,O', [SP-4-2-(1R-trans)]- [CAS]	61825-94-3	EP 393575	Anticancer, alkylating	Cancer, colorectal
Oxalyt-C	1,2,3-Propanetricarboxylic acid, 2-hydroxy-, potassium sodium salt [CAS]	28060-67-5	DE 2249274	Urological	
Oxamartol		15301-80-1			
Oxametacine		27035-30-9			
Oxamniquine		21738-42-1			
oxandrolone	2-Oxandrostan-3-one, 17-hydroxy-17-methyl-, (5 $\alpha$ ), (17 $\beta$ )- [CAS]	53-39-4	US 3128283	Reproductive/gonadal, general	Sex-chromosome abnormality, Turner's syndrome
Oxantel		36531-26-7			
Oxapropanium	2-Oxazolidopropanoic acid, 4,5-diphenyl- [CAS]	541-66-2			
oxaprozin	2H-Benzimidazol-2-one, 1-[3-{4-((diphenylmethyl)-1-piperazinyl)propyl}-1,3-dihydro- [CAS]	21256-18-8	GB 1208403	Antiarthritic, other	Arthritis, osteo
oxatomeide	7-Chloro-1,3-dihydro-3-hydroxy-5-phenyl-2H-1,4-benzodiazepin-2-one	60607-34-3	GB 1579365	Antiallergic, non-asthma	Rhinitis, allergic, general
oxazepam		604-75-1		Formulation, oral, orally-disintegrating	Anxiety, general

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API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
oxazolam	Oxazolam 3,2-di[1,4]benzodiazepin-6(5H)-one, 10-chloro-2,3,7,11b-tetrahydro-2-methyl-11b-phenyl- [CAS]	27167-30-2	US 3772371	Anxiolytic	Epilepsy, general
oxcarbazepine	5H-Dibenz[b,f]azepine-5-carboxamide, 10,11-dihydro-10-oxo- [CAS]	28721-07-5 29331-92-8	DE 2011087	Antiepileptic	
Oxeladin		468-61-1			
Oxendolone		33765-68-3			
Oxethazaine		126-27-2			
Oxetorone		26020-55-3			Infection, fungal, general
oxiconazole	Ethanone, 1-(2,4-dichlorophenyl)-2-(1H-imidazol-1-yl)-, O-[(2,4-dichlorophenyl)methyl]oxime, (Z)- [CAS]	64211-45-6	GB 1514870	Antifungal	
Oxidronic Acid		15468-10-7			
Oxiniaclic Acid		2398-81-4			
Oxiracetam		62613-82-5			
oxitropium	3-Oxa-9-azoniatricyclo[3.3.1.0 <sup>2,4</sup> ]nonane, 9-ethyl-7-(3-hydroxy-1-oxo-2-phenylpropoxy)-9-methyl-, bromide, [7(S)-(1 $\alpha$ ,2 $\beta$ ,4 $\beta$ ,5 $\alpha$ pha,7 $\beta$ )]- [CAS]	30286-75-0	GB 1178305	Antiasthma	Incontinence
Oxolamine		959-14-8			
Oxolinic Acid		14698-29-4			
Oxophenarsine		538-03-4			
Oxprenolol		6452-71-7			
Oxybenzone	Benzeneacetic acid, Alpha-cyclohexyl-Alpha-hydroxy-, 4-(diethylamino)-2-butynyl ester- [CAS]	131-57-7		Formulation, modified-release, other	Pain, general
oxybutynin		5633-20-5			
Oxycinchophen		485-89-2		Formulation, transmucosal, nasal	
oxycodone	Morphinan-6-one, 4,5-epoxy-14-hydroxy-3-methoxy-17-methyl-, (5 $\alpha$ pha)-	76-42-6			

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API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
Oxyfedrine	Octane, 1-bromo-1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluoro- [CAS]	15687-41-9		Haematological	Surgery adjunct
Oxygent		423-55-2			
Oxymesterone		145-12-0			
Oxymetazoline		1491-59-4			
oxymetholone	Androsian-3-one, 17-hydroxy-2-(hydroxymethylene)-17-methyl-, (5 $\alpha$ ), 17 $\beta$ - [CAS]	434-07-1		Hormone	Anaemia, general
Oxymethurea		140-95-4			
oxymorphone	(5 $\alpha$ ), 4,5-Epoxy-3,14-dihydroxy-17-methylmorphinan-6-one [CAS]	76-41-5		Formulation, modified-release, immediate	Pain, general
Oxypendyl		5585-93-3			
Oxypertine		153-87-7			
Oxyphenbutazone		129-20-4			
Oxyphencyclimine		125-53-1			
Oxyphenisatin		115-33-3			
Oxyphenonium		50-10-2			
Oxyplnacamphone		10136-65-9			
oxypurinol	1H-Pyrazolo[3,4-d]pyrimidine-4,6,5H,7H)-dione [CAS]	2465-59-0		Antigout	Hyperuricaemia
Oxytetracycline		79-57-2			
ozagrel	2-Propenoic acid, 3-{4-(1H-imidazol-1-ylmethyl)phenyl}-, (E)- [CAS]	78712-43-3			
P-		82571-53-7	GB 2025946	Antithrombotic	Vasospasm, cerebral
(Benzylsulfonamido)benzoic Acid		536-95-8			
P-100					
P-1202	Pentanoic acid, 5-amino-4-oxo, methyl ester, hydrochloride [CAS]		US 6313177	Antiviral, anti-HIV	Infection, HIV/AIDS
P3298	DI-(3N-(2S,3S)-2-amino-3-methylpentanoyl)-1,3-thiazolidine)fumarate	79416-27-6	US 6034267	Dermatological	Keratosis
PA-824				Antidiabetic	Diabetes, Type II
			WO 9701562	Antimycobacterial	Infection, tuberculosis

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API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
PACAP 38	Pituitary adenylate cyclase-activating peptide-38 [CAS]	128608-20-2	US 5128242	Neuroprotective	Nerve injury, general
pacitaxel	5S,20-Epoxy-1,2Alpha,4,7B,10B,13Alpha-hexahydroxytax-11-en-9-one-4,10-diacetate-2-benzoate-13-(Alpha-phenylthiopyrate)	33069-62-4			
PADRE	1H-Isindol-1-one, 2-(7-chloro-1,8-naphthyridin-2-yl)-2,3-dihydro-3-(5-methyl-2-oxohexyl)- (R)- [CAS]		US 6413935	Formulation, optimized, nanoparticles Immunostimulant, other	Cancer, breast Vaccine adjunct
pagoclone		133737-32-3	US 4960779	Anxiolytic	Panic disorder
PAI inhibs			WO 9404512	Antithrombotic	Thrombosis, venous
palindore	8H-1,4-dioxino[2,3-e]indol-8-one,2,3,7,9-tetrahydro-2-[(phenylmethyl)amino]methyl]-, 2(S)-, (2E)-2-butenedioate (1:1)	189681-71-8			
Palivizumab		188039-54-5		Neuroleptic	Schizophrenia
palonosetron	3aS-2-[(S)-1-Azabicyclo[2.2.2]oct-3-yl]-2,3,3a,4,5,6-hexahydro-1-oxo-1H-benz[de]isoquinoline hydrochloride	135729-62-3	US 5202333	Antiemetic	Chemotherapy-induced nausea and vomiting
Pamabrom		606-04-2			
Pamaquine		491-92-9			
pamidogrel	1H-Pyrrole-1-acetic acid, 2-[4,5-bis(4-methoxyphenyl)-2-thiazolyl]-, ethyl ester [CAS]	101001-34-7	EP 159677	Antithrombotic	Thrombosis, cerebral
pamidronate	(3-Amino-1-hydroxypropylidene)diphosphonic acid- [CAS]	40391-99-9			
p-Aminobenzoic Acid		150-13-0			
p-Aminohippuric Acid		61-78-9			
p-Aminopropiophenone		70-69-9		Formulation, implant	Hypercalcaemia of malignancy
p-Aminosallylic Acid		65-49-6			

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API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
Panavir	4,4'-isopropylidenedithiobis-2,6-di- <i>t</i> -butylphenol			Neuroprotective	Vasospasm, cerebral
Pancuronium		15500-66-0			
Panipenem		87726-17-8			
Pantethine		16816-67-4			
pantoprazole	1 <i>H</i> -Benzimidazole, 5-(difluoromethoxy)-2-[[3,4-dimethoxy-2-pyridinyl)methyl]sulfinyl]- [CAS]	102625-70-7	EP 166287	Antiulcer	Ulcer, duodenal
Pantothenic Acid		79-83-4			
Papain					
Papaverine		58-74-2			
paracetamol	Acetamide, N-(4-hydroxyphenyl)- [CAS]	103-90-2			Pain, general
Parafituzide		1580-83-2			
Paraldehyde		123-63-7			
Paramethadione		115-67-3		Formulation, oral, other, modified-release	
Paramethasone		53-33-8			
Paranyline		1729-61-9			
Parathyroid Hormone		9002-64-6			
parecoxib	Propanamide, N-((4-(5-methyl-3-phenyl-4-isoxazolyl)phenyl)sulfonyl)-, sodium salt [CAS]	198470-85-8	WO 9738986	Analgesic, NSAID	Pain, post-operative
Parethoxycaine		94-23-5			
Pargyline	19-Nor-9,10-secoergosta-5,7,22-triene-1,3,25-triol, (1 <i>α</i> ,3 <i>α</i> ,7 <i>E</i> ,22 <i>E</i> )- [CAS]	555-57-7			
paricalcitol		131918-61-1	EP 387077	Hormone	Hyperparathyroidism
paromomycin	O-2-Amino-2-deoxy-Alpha-D-glucopyranosyl-(1-4)-O-(2,6-diamino-2,6-dideoxy-β-L-xylofuranosyl-(1-3)-β-D-ribofuranosyl-(1-5))-2-deoxy-D-streptamine	7542-37-2		Protozoacide	Infection, leishmaniasis
paroxetine	Piperidine, 3-[(1,3-benzodioxol-5-yloxy)methyl]-4-(4-fluorophenyl)-, (3 <i>S</i> -trans)- [CAS]	61869-08-7	EP 223403	Antidepressant, formulation, oral, orally-disintegrating	Depression, general

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API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
Paroxypropione		70-70-2			
Parsalimide		30653-83-9			
PaTir-2	4-Bromothienylguanine			Radiochemosensitizer	Cancer, melanoma
Pazinacnone		103255-66-9			
	7H-Pyrido[1,2,3-de]-1,4-benzoxazine-6-carboxylic acid, 10-(1-aminocyclopropyl)-9-fluoro-2,3-dihydro-3-methyl-7-oxo-, (S)- [CAS]	127045-41-4 127046-45-1 136905-87-8	DE 3913245	Quinolone antibacterial	Infection, general
pazufloxacin		103-88-8	US 4918063	Formulation, other	Arthritis, general
p-Bromoacetanilide					
PC-NSAIDs	6-(2,6-Dichlorophenyl)-2-[4-(diethylaminoethoxy)-phenylamino]-8-pyrido[2,3-D]pyrimidine-7-one			Anticancer, other	Cancer, general
PD-0166285		19504-77-9			
Pecilocin					
pefloxacin	3-Quinolonecarboxylic acid, 1-ethyl-6-fluoro-1,4-dihydro-7-(4-methyl-1-piperazinyl)-4-oxo- [CAS]	70458-92-3	GB 1598915	Quinolone antibacterial	Infection, urinary tract
	Somatotropin (18-aspartic acid, 21-asparagine, 120-lysine, 167-asparagine, 168-alanine, 171-serine, 172-arginine, 174-serine, 179-threonine (human), pegylated [CAS]	218620-50-9 4396-1-4		Somatostatin	Acromegaly
Pelletierine					
	L-Glutamic acid, N-[4-[2-(2-amino-4,7-dihydro-4-oxo-1H-pyrido[2,3-d]pyrimidin-5-yl)ethyl]benzoyl-, disodium salt [CAS]	137281-23-3 150399-23-8 100289-08-9 69372-19-6	US 5248775 US 4457932	Anticancer, antimetabolite Asthma	Cancer, mesothelioma Asthma
permetrexed	4H-Pyrido[1,2-a]pyrimidin-4-one, 9-methyl-3-(1H-tetrazol-5-yl)- [CAS]	2152-34-3 79-55-0			
pemirrolast					
Pemoline					
Pemipidine					
PEN-203			US 5955446	Antiviral, other	Infection, human papilloma virus
Penamecillin		983-85-7			



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API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
penbutolol	2-Propanol, 1-(2-cyclopentylphenoxy)-3-[(1,1-dimethylethyl)amino], (S)-, sulfate (2:1) (salt) [CAS]	38363-32-5 38363-40-5	GB 1215751	Antihypertensive, adrenergic	
peniclovir	6H-Purin-6-one, 2-amino-1,9-dihydro-9-[4-hydroxy-3-(hydroxymethyl)butyl]- [CAS]	39809-25-1 808-71-9	JP 60058982	Antiviral, other	Infection, herpes simplex virus
Penethamate	4-Piperidinol, 1-[4,4-bis(4-fluorophenyl)butyl]-4-[4-chloro-3-(trifluoromethyl)phenyl]- [CAS]	28864-56-2 52-67-5 61-33-6 1538-09-6	DE 2040231	Neuroleptic	
penicillidol					
Penicillamine					
Penicillin G					
Penicillin G Benzathine					
Penicillin G Procaine					
Penicillin N					
Penicillin O					
Penicillin V					
Penimepicycline					
Penituss			US 4221778	Formulation, modified-release, other	Rhinitis, allergic, general
Pentaerythritol Chloral					
Pentaerythritol		78-12-6			
Dichlorohydrin		2209-86-1			
Pentaerythritol		597-71-7			
Pentagastrin		5534-95-2			
Pentagestrone		7001-56-1			
PentalLyte	Starch, 2-hydroxyethyl ether [CAS]	9005-27-0	US 5407428	Plasma substitute	Surgery adjunct
Pentamethonium		541-20-8			
pentamidine	Benzenecarboximidamide, 4,4'-[1,5-pentanediylbis(oxy)]bis- [CAS]	100-33-4 359-83-1 12111-24-9 67-43-6 138651-02-6		Formulation, inhalable, systemic	Infection, Pneumocystis jiroveci prophylaxis
Pentazocine					
Pentetate					
Pentetic Acid					
Pentetreotide					

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API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
Penthiolate		60-44-6			
Pentifylline		1028-33-7			
Pentigetide		62087-72-3			
Pentisomide		78833-03-1			
Pentobarbital		76-74-4			
Pentolinium		52-62-0			
Pentorex		434-43-5			
pentosan	Xylan, [CAS]	37319-17-8	US 5180715	Urological	Inflammation, urinary tract
pentostatin	Imidazo[4,5-d][1,3]diazepin-8-ol, 3-(2-deoxy-β-D-erythro-pentofuranosyl)-3,6,7,8-tetrahydro-, (R)- [CAS]	53910-25-1	US 3923785	Anticancer, antimetabolite	Cancer, leukaemia, hairy cell
pentoxifylline	1H-Purine-2,6-dione, 3,7-dihydro-3,7-dimethyl-1-(5-oxohexyl)- [CAS]			Neuroprotective	Amyotrophic lateral sclerosis
Pentoxyl		147-61-5			
Pentritinrol		1607-17-6			
Pentyletetrazole		54-95-5			
peplomycin	Bleomycinamide, N1-[3-(1-phenylethyl)amino]propyl-, (S)- [CAS]	68247-85-8	US 4195018	Anticancer, antibiotic	
Perazine		84-97-9			
Perflubron		423-55-2			
Perfosamide		62435-42-1; 39800-16-3 (unspecified)			
pergolide	Ergoline, 8-[(methylthio)methyl]-6-propyl-, (8S)-, monomethanesulfonate- [CAS]	66104-22-1 66104-23-2	US 4797405	Antiparkinsonian	Parkinson's disease
Perhexiline		6621-47-2			
Pericyazine		2622-26-6			
perifosine	Piperidinium, 4-[hydroxy(octadecyloxy)phosphinyloxy]-1,1-dimethyl-, inner salt [CAS]	157716-52-4	EP 594999	Anticancer, other	Cancer, prostate
perilyl alcohol	1-Cyclohexene-1-methanol, 4-(1-methylethenyl)- [CAS]	538-59-4	US 5110832	Anticancer, other	Cancer, breast
Perimethazine		13093-88-4			

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API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
perindopril	1H-Indole-2-carboxylic acid, 1-[2-[[1-(ethoxycarbonyl)butyl]amino]-1-oxopropyl]octahydro-, [2S-[1[R*(R*)],2Alpha,3aB,7aB]], compd. with 2-methyl-2-propanamine (1:1) [CAS]	107133-36-8 82834-16-0 95153-31-4	EP 49658	Antihypertensive, renin system	Hypertension, general
Perindyl		53586-99-5			
perisoxal	1-Piperidineethanol, Alpha-(5-phenyl-3-isoxazolyl)-, 2-hydroxy-1,2,3-propanetricarboxylate (2:1) (salt) [CAS]	2139-25-5 2055-44-9	JP 04217925	Anti-inflammatory	
Perlapine		1977-11-3			
Permethrin		52645-53-1			
perospirone	1H-Isindole-1,3(2H)-dione, 2-[4-{4-(1,2-benzisothiazol-3-yl)-1-piperazinyl}butyl]hexahydro-, cis- [CAS]	129273-38-7 150915-41-6	CA 2167004	Neuroleptic	Schizophrenia
Perphenazine		58-39-9			
Petroleum Benzoin		8030-30-6	US 6331286	Antipsoriasis	Psoriasis
PH-10		84-12-8			
Phanquinone			WO 9638482	Immunological	Unspecified
Pharmaprojects No. 4994			WO 9703986	Neuroleptic	Schizophrenia
Pharmaprojects No. 5325			WO 0204426	Antiasthma	Asthma
Pharmaprojects No. 5972			US 6057346	Antiviral, anti-HIV	Infection, HIV/AIDS
Pharmaprojects No. 6362	(R)-N-[4-[2-[2-Hydroxy-2-(3-pyridinyl)ethyl]aminoethyl]phenyl]-4-[4-(trifluoromethyl)phenyl]thiazot-2-yl]benzenesulfonamide			Anorectic/Antiobesity	Obesity
Pharmaprojects No. 6446			WO 0206223	Psychostimulant	Attention deficit disorder
Pharmaprojects No. 6590			US 6455026	Genomics-based drug discovery	Cancer, brain
Pharmaprojects No. 6656			US 6299900	Formulation, other	Pain, general
Pharmaprojects No. 6691	3-(6-Aminopyridin-3-yl)-N-methyl-N-[(1-methyl-1H-indol-2-yl)methyl]acrylamide			Antibacterial, other	Infection, general
Pharmaprojects No. 6743					

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API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
Pharmaprojects No. 6748	1,2,3,4,10,14b-Hexahydro-6-methoxy-2-methylkibenzo[c,f]pyrazino[1,2-a]azepin				
Phenacaine		620-99-5		Antidepressant	Depression, general
Phenacemide		63-98-9			
Phenacetin		62-44-2			
Phenadoxone		467-84-5			
Phenallymal		115-43-5			
Phenamet		3819-34-9			
Phenazocine		127-35-5			
Phenazopyridine		136-40-3			
Phenbutamide		3149-00-6			
Phencyclidine		77-10-1			
Phendimetrazine		634-03-7			
Phenelzine		51-71-8			
Phenesterine		3546-10-9			
Phenetharbital		357-67-5			
Phenethicillin		132-93-4			
Pheneturide		90-49-3			
Phenformin		114-86-3			
Phenglutarimide		1156-05-4			
Phenindamine		82-88-2			
Phenindione		83-12-5			
Pheniprazine		55-52-7			
Pheniramine		86-21-5			
Phenmetrazine		134-49-6			
Phenobarbital		50-06-6			
Phenobutodil		554-24-5			
Phenocoll		103-97-9			
Phenoclide		78-05-7			
Phenolphthalein		77-09-8			
Phenolphthalol		81-92-5			

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API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
Phenolsulfonphthalein		143-74-8			
Phenoltetrachlorophthal		639-44-1			
ein					
Phenoperidine		562-26-5			
Phenosulfazole		515-54-8			
Phenoxybenzamine		59-96-1			
Phenoxypropazine		3818-37-9			
Phenprobamate		673-31-4			
Phenprocoumon		435-97-2			
phenserine	Pyrolo(2,3-b)indol-5-ol, 1,2,3a,8,8a-hexahydro-1,3a,8-trimethyl-, phenylcarbamate (ester), (3aS-cis)- [CAS]	101246-66-6		Cognition enhancer	Alzheimer's disease
Phensuximide		86-34-0			
Phentermine		122-09-8			
Phentetiothalein		18265-54-8			
phenbolamine	Phenol, 3-(((4,5-dihydro-1H-imidazol-2-yl)methyl)(4-methylphenyl)amino)-, monomethanesulfonate (salt) [CAS]	65-28-1 50-60-2		Formulation, oral, other	Impotence
Phenyl Acetylsalicylate		134-55-4			
Phenyl Aminosalicylate		133-11-9			
Phenyl Salicylate		118-55-8			
Phenylbutazone		50-33-9			
Phenylephrine		61-76-7			
Phenylethanalamine		7568-93-6			
Phenylmercury		102-98-7			
Phenylmethybarbituric Acid		76-94-8			
phenylpropanolamine	Benzenemethanol, Alpha-(1-aminoethyl)-, (R*,S*)-(+/-)- [CAS]	14638-15-4		Anorectic/Antiobesity, formulation, optimized, microparticles	
Phenylpropylmethylaniline		93-88-9			

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API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
Phenyltoloxamine	2,4-Imidazolidinedione, 5,5-diphenyl- [CAS]	92-12-6		Formulation, oral, other	Epilepsy, general
Phenylamidol		553-69-5			
phenytoin		57-41-0			
Phethenylate		510-34-9			
Phloroglucinol		108-73-6			
Pholcodine		509-67-1			
Pholedrine		370-14-9			
Phosphocreatine		67-07-2			
Phosphocysteamine		5746-40-7			
Phosphorylcholine		107-73-3			
Phthalylsulfacetamide	D-Mannose, O-6-O-phosphono-Alpha-D-mannopyranosyl-(1-3)-O-Alpha-D-mannopyranosyl-(1-3)-O-Alpha-D-mannopyranosyl-(1-3)-O-Alpha-D-mannopyranosyl-(1-2)-hydrogen sulphate [CAS]	131-69-1	WO 9318036	Anticancer, other	Cancer, melanoma
Phthalylsulfathiazole		85-73-4			
p-Hydroxyephedrine		365-26-4			
Phylloquinone		84-80-0			
Physostigmine		57-47-6			
Phytic Acid		83-86-3			
PI-88		185077-23-0			
Piberaline		39840-15-8			
piboserod		152811-62-6		Antiarrhythmic	Fibrillation, atrial
Piclorex	2H-(1,3)Oxazino(3,2-a)indole-10-carboxamide, N-(1-butyl-4-piperidinyl)methyl)-3,4-dihydro- [CAS]	62510-56-9			
Picloxydine		5636-92-0			
Picoperine		21755-66-8			
Picosulfate		10040-45-6			
Picotamide		32828-81-2			
Picumast		39577-19-0			

Table IV

API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
pidotimod	4-Thiazolidinecarboxylic acid, 3-[(5-oxo-2-pyrrolidinyl)carbonyl]- [CAS]	121808-62-6	EP 276752	Immunomodulator, anti-infective	Infection, respiratory tract, lower
<b>Pifamline</b>		56208-01-6			
piketopfen	Benzeneacetamide, 3-benzoyl- $\alpha$ -methyl-N-(4-methyl-2-pyridinyl)- [CAS]	60576-13-8	GB 1436502	Anti-inflammatory, topical	
<b>Pildralazine</b>		64000-73-3			
piilocarpine	2(3H)-Furanone, 3-ethylidihydro-4-[(1-methyl-1H-imidazol-5-yl)methyl]-, (3S-cis)- [CAS]	92-13-7		Formulation, implant, Stomatological	
	2-Propenoic acid, 2-methyl-, dodecyl ester, polymer with 2-propenolacid, compd. with (3S-cis)-3-ethylidihydro-4-[(1-methyl-1H-imidazol-5-yl)methyl]-2(3H)-furanone [CAS]				
Pioplex	1H-Pyrazolizine-7a(5H)-acetamide, N-(2,6-dimethylphenyl)tetrhydro-, monohydrochloride [CAS]	62783-28-2	DE 2636559	Formulation, mucosal, topical	Glaucoma
pisicalinide		88069-49-2			
		88069-67-4	US 4564624	Antiarrhythmic	Arrhythmia, general
<b>Pimectione</b>		534-84-9			
	15,19-Epoxy-3H-pyrido(2,1-c)(1,4)oxazacyclotricosine-1,7,20,21(4H,23H)-tetraone, 3-(2-(4-chloro-3-methoxycyclohexyl)-1-methylethenyl)-8-ethyl-				
	5,6,8,11,12,13,14,15,16,17,18,19,24,25,26,26a-hexadecahydro-5,19-dihydroxy-14,16-dimethoxy-4,10,12,18-tetramethyl-(3S-(3R'E(1S',3S',4R')), 4S',5R',8S',9E',12R',14R',5S',16R',18S',19S',26aR'))- [CAS]				
pimecrolimus		137071-32-0	EP 626385	Antipruritic/inflamm, allergic	Eczema, atopic
<b>Pimefylline</b>		10001-43-1			
	Acetic acid, [2-(octahydro-5-hydroxy-6-(3-hydroxy-5-methyl-1-nonenyl)-2-pentalanyl)ethoxy]-, methyl ester, [2R-[2 $\alpha$ Pha,3 $\alpha$ Pha,4 $\alpha$ Pha(1E,3S',5S'),5 $\alpha$ ,6 $\alpha$ Alpha]]- [CAS]				
pimilprost		139403-31-9			
<b>Piminodine</b>		13495-09-5		Dermatological	Ulcer, general
<b>Pimobendan</b>		74150-27-9			

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API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
pimozide	2H-Benzimidazo[2-one, 1-[1-[4,4-bis(4-fluorophenyl)butyl]-4-piperidinyl]-1,3-dihydro- [CAS]	2062-78-4	FR M3695	Neuroleptic	
Pinacidil	Morpholinium, 4-[(2-bromo-4,5-dimethoxyphenyl)methyl]-4-[2-[2-(6,6-dimethylbicyclo[3.1.1]hept-2-yl)ethoxy]ethyl]-, [CAS]	85371-64-8			
pinaverium		53251-94-8	EP 406743	Antispasmodic	Irritable bowel syndrome
pinazepam	2H-1,4-Benzodiazepin-2-one, 7-chloro-1,3-dihydro-5-phenyl-1-(2-propynyl)-[CAS]	52463-83-9	DE 2339790	Anxiolytic	
Pindolol		13523-86-9			
pioglitazone	2,4-Thiazolidinedione, 5-[[4-[2-(5-ethyl-2-pyridinyl)ethoxy]phenyl]methyl]-, monohydrochloride (+/-), [CAS]	111025-46-8 112529-15-4	EP 193256	Antidiabetic	Diabetes, Type II
Pipacycline		1110-80-1			
Pipamazine		84-04-8			
Pipamperone		1893-33-0			
Pipazethate		2167-85-3			
Pipebuzone		27315-91-9			
Pipecurium		52212-02-9			
pipecuronium	Piperazinium, 4,4'-[[[2L,3A]alpha,5A]alpha,16B,17B]-3,17-bis(acetyloxy)androstane-2,16-diyl]bis(1,1-dimethyl-, [CAS]	52212-02-9 68399-57-5	GB 1398050	Muscle relaxant	Anaesthesia, adjunct
pipemidic acid	Pyrido[2,3-d]pyrimidine-6-carboxylic acid, 8-ethyl-5,8-dihydro-5-oxo-2-(1-piperazinyl)-[CAS]	51940-44-4	GB 1451911	Antibacterial, other	Infection, urinary tract
Pipenzolate Bromide		125-51-9			
Piperacetazine		3819-00-9			
piperacillin	4-Thia-1-azabicyclo[3.2.0]heptane-2-carboxylic acid, 6-[[[(4-ethyl-2,3-dioxo-1-piperazinyl)carbonyl]amino]phenylacetyl]amino]-3,3-dimethyl-7-oxo-[(2S)-(2A]alpha,5A]alpha,6B(S*)]-[CAS]	59703-84-3 61477-96-1	GB 1508062	Penicillin, injectable	Infection, general



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API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
Piperazine Adipate		142-88-1			
Piperidione		77-03-2			
Piperidolate		82-98-4			
Piperilate		4546-39-8			Vitiligo
piperine analogues			WO 002544	Dermatological	
Piperocaine		136-82-3			
Piperonal		120-57-0			
Piperoxan		59-39-2			
Piperylfone		25-31-4-6			
Pipobroman		54-91-1			
Piposulfan		2608-24-4			
	Hexadecanoic acid, 2-[1-[3-[2-[[dimethylamino)sulfonyl]-10H-phenothiazin-10-yl]propyl]-4-piperidinyl]ethyl ester [CAS]	37517-26-3 39860-99-6	US 4782077	Neuroleptic	
pipotiazine		18174-58-8			
Pipoxolan		467-60-7			
Pipradrol					
	Acetic acid, [3-ethyl-4-oxo-5-(1-piperidinyl)-2-thiazolidinydene], ethyl ester [CAS]	17243-64-0	US 3971794	GI inflammatory/bowel disorders	Motility dysfunction, GI, general
piprozolin		7491-74-9			
Piracetam					
	5,12-Naphthacenedione, 10-[[3-amino-2,3,6-trideoxy-4-O-(tetrahydro-2H-pyran-2-yl)-Alpha-L-lyxo-hexopyranosyl]oxy]-7,8,9,10-tetrahydro-6,8,11-trihydroxy-8-(hydroxyacetyl)-1-methoxy-, [8S-[8Alpha,10Alpha(S*)]]- [CAS]	72496-41-4	US 4303785	Anticancer, antibiotic	Cancer, breast
pirarubicin		71002-09-0			
Pirazolac		38029-10-5			
	2,6-Pyridinedimethanol, Alpha6-[[1,1-dimethylethyl]amino]methyl]-3-hydroxy-, monoacetate (salt) [CAS]	38677-81-5 65652-44-0	US 3786160	Antiasthma	Asthma
pirbuterol		1043-21-6			
Pirenoxine					

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pirenzepine	[6H-Pyrido[2,3-b][1,4]benzodiazepin-6-one, 5,11-dihydro-11-[(4-methyl-1-piperazinyl)acetyl]- [CAS]	28797-61-7 29868-97-1	FR 1505795	Antitumor	
piretanide	Benzolic acid, 3-(aminosulfonyl)-4-phenoxy-5-(1-pyrrolidinyl)- [CAS]	55837-27-9	US 4010273	Antihypertensive, diuretic	Hypertension, general
pirfenidone	2(1H)-Pyridinone, 5-methyl-1-phenyl- [CAS]	53179-13-8		Respiratory	Fibrosis, pulmonary
piribedil	Pyrimidine, 2-[4-(1,3-benzodioxol-5-ylmethyl)-1-piperazinyl]- [CAS]	3605-01-4	US 3299067	Vasodilator, peripheral	Parkinson's disease
<b>Piridocaine</b>		87-21-8			
<b>Pirifibrate</b>		55285-45-5			
<b>Pirritramide</b>		302-41-0			
<b>Piritrexim</b>		72732-56-0			
pirindole	1H-Pyrazino[3,2,1-k]carbazole, 2,3,3a,4,5,6-hexahydro-8-methyl- [CAS]	16154-78-2 60762-57-4	SU 276080	Antidepressant	Depression, general
pirimendol	(2-Pyridinemethanol, Alpha-[3-(2,6-dimethyl-1-piperidinyl)propyl]-Alpha,phenyl-, cis-(+)- [CAS]	61477-94-9 68252-19-7	US 4112103	Antiarrhythmic	Tachycardia, supraventricular
<b>Piroctone</b>		50650-76-5			
<b>Piroheptine</b>		16378-21-5			
<b>Piromidic Acid</b>		19562-30-2			
piroxcam	2H-1,2-Benzothiazine-3-carboxamide, 4-hydroxy-2-methyl-N-2-pyridinyl-, 1,1-dioxide [CAS]	36322-90-4	US 3962319	Anti-inflammatory	
piroxcam betadex	(3-Cyclodextrin, compd. with 4-hydroxy-2-methyl-N-2-pyridinyl-2H-1,2-benzothiazine-3-carboxamide 1,1-dioxide- [CAS]	121696-62-6 96684-39-8	EP 153998	Formulation, other	Pain, musculoskeletal
piroxcam cinnamate	2-Propenoic acid, 3-phenyl-, 2-methyl-3-[(2-pyridinylamino)carbonyl]-2H-1,2-benzothiazin-4-yl ester, S,S-dioxide [CAS]	87234-24-0 54110-25-7 31793-07-4	EP 79639	Antiarthritic, other	Inflammation, general
<b>Pirozadil</b>					
<b>Piropfen</b>					

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pitavastatin	6-Heptenoic acid, 7-[2-cyclopropyl-4-(4-fluorophenyl)-3-quinolinyl]-3,5-dihydroxy-, calcium salt (2:1), [S-(R*, S*-(E))], [CAS]	147526-32-7	EP 304063	Hypolipaeamic/Antiatherosclerosis	Hyperlipidaemia, general
pivagabine	N-trimethylacetyl-4-aminobutyric acid	69542-93-4		Neurological	Anxiety, general
pivaloxyloxymethyl	Butanoic acid, (2,2-dimethyl-1-oxopropoxy)methyl ester [CAS]	122110-53-6	EP 302349	Anticancer, other	Cancer, lung, non-small cell
<b>Pivalylbenzhydrazine</b>		306-19-4			
<b>Pivampicillin</b>		33817-20-8			
pivampicillin/pivmecillinam		98445-47-7		Penicillin, oral	Infection, general
<b>Pivcefalexin</b>		63836-75-9			
pivmecillinam	4-Thia-1-azabicyclo[3.2.0]heptane-2-carboxylic acid, 6-[[[hexahydro-1H-azepin-1-yl)methyl]enyl]amino]-3,3-dimethyl-7-oxo-, (2,2-dimethyl-1-oxopropoxy)methyl ester, [2S-(2Alpha,5Alpha,6S)]-, [CAS]	32886-97-8	GB 1293590	Penicillin, oral	Infection, general
pizantone	Benz[ <i>g</i> ]isoquinoline-5,10-dione, 6,9-bis[(2-aminoethyl)amino]-, (2 <i>Z</i> )-butanedioate(1:2) [CAS]	144675-97-8	EP 503537	Anticancer, other	Cancer, lymphoma, non-Hodgkin's
pizotifen	4-(9,10-dihydro-4H-benzof[4,5]cyclohepta[1,2-b]thien-4-ylidene)-1-methylpiperidine.	15574-96-6	DE 2346747	Antimigraine	
<b>Pizotyline</b>		15574-96-6			
PKI-166	Phenol, 4-[(4-(((1 <i>R</i> )-1-phenylethyl)amino)-1 <i>H</i> -pyrrolo[2,3- <i>c</i> ]pyrimidin-6-yl)- [CAS]	187724-61-4		Anticancer, other	Cancer, general
<b>p-Lactophenetide</b>		539-08-2			
<b>Plafibrade</b>		63394-05-8			
plasminogen activator	Plasminogen activator [CAS]	105913-11-9	EP 151996	Fibrinolytic	Infarction, myocardial
<b>Plasmocid</b>		551-01-9			
<b>Platonin</b>		3571-88-8			
<b>Plaunotol</b>		64218-02-6			
PLD-118	Cyclopentanecarboxylic acid, 2-amino-4-methylene-, (1 <i>R</i> ,2 <i>S</i> )- [CAS]	198022-65-0	EP 805145	Antifungal	Infection, Candida, general

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API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
PLD-147	(OC-6-43)-Bis(acetato)(1-adamantylamine)amine-dichloroplatinum (IV)			Anticancer, alkylating	Cancer, general
pleconaril	1,2,4-Oxadiazole, 3-(3,5-dimethyl-4-(3-(3-methyl-5-isoxazolyl)propoxy)phenyl)-5-(trifluoromethyl)- [CAS]	153168-05-9	US 5464848	Antiviral, other	Infection, respiratory tract, general
Pilcamycin		18378-89-7			
P-Methyldiphenhydramine		19804-27-4			
PMS-601			WO 0001677	Antiviral, anti-HIV	Infection, HIV/AIDS
Pneumococcal Vaccine, Diphtheria Conjugate					
Pneumococcal Vaccine, Polyvalent					
PNU-288034	N-[[[(5s)-3/4[(1,1-dioxido-4-thiomorpholinyl)3,5-difluorophenyl]-2-oxo-5-oxazolidinyl)methyl]acetamide]			Antibiotic, other	Infection, general
Podophyllotoxin		518-28-5			
polaprazinc	Zinc, bis(N-β-alanyl-L-histidinato-N3, Oαpha)-, (T-4)- [CAS]	107667-60-7	EP 303380	Antituber	Ulcer, duodenal
Poldine Methysulfate		545-80-2			
Poliresulen		9011-2-3			
Polidexide		9064-92-0			
polidocanol	Polyethylene glycol monododecyl ether	3055-89-0		Vasoprotective, systemic	Venous insufficiency
Poliovirus Vaccine Inactivated		9002-92-0			

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API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
poly-ADPRT inhibitors					
Polyestradiol Phosphate		28014-46-2	WO 9845253	Anticancer, other	Cancer, general
Polyphenon E	Polyphenon E [CAS]	188265-33-0		Antiviral, other	Infection, human papilloma virus
Polythiazide polymer	Photofin [CAS]	346-18-9			
		87806-31-3	US 4882234	Anticancer, other	Cancer, lung, non-small cell
Porfiromycin		801-52-5			
posaconazole	D-threo-Pentitol, 2,5-anhydro-1,3,4-trideoxy-2-C-(2,4-difluorophenyl)-4-(4-(4-(1(S,2S)-1-ethyl-2-hydroxypropyl)-1,5-dihydro-5-oxo-4H-1,2,4-triazol-4-yl)phenyl)-1-piperazinyl)phenoxy)methyl)-1-(1H-1,2,4-triazol-1-yl)- [CAS]	171228-49-2	US 5714490	Antifungal	Infection, fungal, general
Posafirelin		78664-73-0			
potassium chloride	Potassium chloride (KCl) [CAS]	7447-40-7		Formulation, oral, enteric-coated	
Potassium Gluconate		299-27-4			
Potassium		1321-14-8			
Guaiacolsulfonate		138-84-1			
Potassium p-		7722-64-7			
Aminobenzoate		9003-39-8			
Potassium		25655-41-8			
Permanganate					
Povidone					
Povidone-Iodine					
PP-117	3-Pyridinemethanol, hydrofluoride [CAS]	62756-44-9	DE 2633028	Formulation, oral, other	Unspecified
PR-2699	(-)(E)-[4-(2,4-dichlorophenyl)-1,3-dithiolan-2-ylidene]-1-imidazolylacetonitrile			Antifungal	Infection, fungal, general

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PR-608	(S)-(-)-1-[4-(4-bis(4-fluorophenyl)butyl)-4-(2-hydroxy-3-phenylaminopropyl)piperazine trihydrochloride]			Antiparkinsonian	Parkinson's disease
Practolol		6673-35-4			
Praimarine		35080-11-6			
Pralidoxime		51-15-0			
pranacasan	8H-Pyridazino(1,2-a)(1,2)diazepine-1-carboxamide, N-((2R,3S)-2-ethoxytetrahydro-6-oxo-3-furanyl)octahydro-9-(1-isoquinolinylcarbonyl)amino)-6,10-dioxo-, (1S,9S)- [CAS]	192755-52-5		Antiarthritic, immunological	Arthritis, rheumatoid
pramipexole	2,6-Benzothiazolodiamine, 4,5,6,7-tetrahydro-N6-propyl-, (S)- [CAS]	104632-28-0	EP 186087	Antiparkinsonian	Parkinson's disease
pramiracetam	1-Pyrrolidineacetamide, N-[2-bis(1-methylethyl)aminoethyl]-2-oxo-, monohydrochloride [CAS]	68497-82-1 72869-16-0 75733-50-5	US 4145347	Cognition enhancer	Amnesia
Pramiverin		14334-40-8			
pramlintide	1,2-Dithia-5,8,11,14,17-pentaaazacycloicosane, cyclic peptide deriv. [CAS]	151126-32-8	US 5124314	Antidiabetic	Diabetes, Type I
Pramoxine		140-65-8			
pranidipine	3,5-Pyridinedicarboxylic acid, 1,4-dihydro-2,6-dimethyl-4-(3-nitrophenyl)-, methyl 3-phenyl-2-propenyl ester, (E)- [CAS]	98522-79-9	EP 173126	Antihypertensive, other	Hypertension, general
Pranlukast	5H-[1]Benzopyrano[2,3-b]pyridine-7-acetic acid, Alpha-methyl- [CAS]	103177-37-3			
pranoprofen	Androst-5-en-17-one, 3-hydroxy-, (3S)- [CAS]	52549-17-4		Formulation, mucosal, topical	Ocular disorder, general
prasterone	4(3H)-Cycloheptimidazolone, 5,6,7,8-tetrahydro-2-propyl-3-[[2'-(1H-tetrazol-5-yl)]1',1'-biphenyl]-4-yl[methyl]- [CAS]	53-43-0		Labour inducer	
prazosin		153804-05-8	US 5409947	Antihypertensive, renin system	Hypertension, general

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pravastatin	1-Naphthaleneheptanoic acid, 1,2,6,7,8,8a-hexahydro-8, delta, 6-trihydroxy-2-methyl-8-(2-methyl-1-oxobutoxy)-, monosodium salt, [1S]-[1Alpha(3S*, deltaS*), 2Alpha, 6Alpha, 8R(R*), 8aAlpha]- [CAS]	81093-37-0 81131-70-6	US 4346227	Hypolipaeamic/Antiatherosclerosis	Atherosclerosis
Prazepam	4H-Pyrazinol[2,1-a]isoquinolin-4-one, 2-(cyclohexylcarbonyl)-1,2,3,6,7,11b-hexahydro- [CAS]	2955-38-6			
praziquantel		55268-74-1	US 4001411	Schistosomicide	
prazosin	Piperazine, 1-(4-amino-6,7-dimethoxy-2-quinazolinyl)-4-(2-furanylcarbonyl)-[CAS]	19216-56-9 19237-84-4	US 4092315	Antihypertensive, adrenergic	Hypertension, general
Prednicarbate		73771-04-7			
prednimustine	Pregna-1,4-diene-3,20-dione, 21-[4-(bis(2-chloroethyl)aminophenyl)-1-oxobutoxy]-11,17-dihydroxy-, (11R)- [CAS]	29069-24-7	GB 1272841	Anticancer, alkylating	
Prednisolone		50-24-8			
Prednisolone 21-Diethylaminoacetate		5626-34-6			
prednisolone farnesil	Pregna-1,4-diene-3,20-dione, 11,17-dihydroxy-21-[(3,7,11-trimethyl-1-oxo-2,6,10-dodecatrenyl)oxy]-[11R,21(2E,6E)]- [CAS]				
Prednisolone Sodium Phosphate		118244-44-3	EP 332143	Antiarthritic, other	Arthritis, rheumatoid
Prednisolone		125-02-0			
Prednival		53-03-2			
Prednylidene		15180-00-4			
pregabalin	Hexanoic acid, 3-(aminomethyl)-5-methyl, (S)- [CAS]	599-33-7			
Pregnan-3alpha-ol-20-one		148553-50-8		Antiepileptic	Epilepsy, general
Premarin + trimigestone	Estra-4,9-dien-3-one, 17-(2-hydroxy-1-oxopropyl)-17-methyl-, [17R (S)]- [CAS]	128-20-1		Menopausal disorders	Hormone replacement therapy
		74513-62-5			

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prenalterol	Phenol, 4-[2-hydroxy-3-[(1-methylethyl)amino]propoxy]-, hydrochloride, (S)-[CAS]	57528-81-5 61260-05-7	GB 1470039	Cardio stimulant	
<b>Prenoxdiazine</b>		982-43-4			
<b>Prenylamine</b>		390-64-7			
prezatiside	Cuprate(1-), (N2-(N-glycyl-L-histidyl)-L-lysinate)(N2-(N-glycyl-L-histidyl)-L-lysinate(2-)), hydrogen, [CAS]	130120-57-9		Vulnerary	Wound healing
<b>Pridinol</b>		511-45-5			
<b>Prifinium</b>		4630-95-9			
<b>Prilocaine</b>		721-50-6			
<b>Primaquine</b>		90-34-6			
<b>Primidone</b>		125-33-7			
<b>Prinomastat</b>		192329-42-3			
<b>PRO-2000</b>			US 5614599	Antiviral, anti-HIV	Infection, HIV prophylaxis
<b>Probenecid</b>		57-68-9			
<b>Probutol</b>		23288-49-5			
procainamide	Benzamide, 4-amino-N-[2-(diethylamino)ethyl]- [CAS]	51-08-9 614-39-1		Formulation, other	Arrhythmia, general
<b>Procaine</b>		59-46-1			
<b>Procarbazine</b>		671-18-9			
procatarol	2-(1H)-Quinolone, 8-hydroxy-5-[1-hydroxy-2-[(1-methylethyl)amino]butyl]-, monohydrochloride [CAS]	59528-07-8 60443-17-6			
	10H-Phenothiazine, 2-chloro-10-[3-(4-methyl-1-piperazinyl)propyl]-, (2)-2-butenedioate	72332-33-3	GB 1496766	Antasthma	
prochlorperazine		58-38-8 84-02-6		Formulation, oral, other	Nausea and vomiting, general
procodazol	1H-Benzimidazole-2-propanoic acid [CAS]	23249-97-0	ES 407882	Anticancer, immunological	Cancer, general
<b>Procyclidine</b>		77-37-2			
<b>Procymate</b>		13931-64-1			
<b>Prodipine</b>		31314-38-2			
<b>Proflavine</b>		92-62-6			
<b>Progabide</b>		62666-20-0			



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API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
progesterone	Pregn-4-ene-3,20-dione [CAS]	57-83-0		Formulation, transmucoasal, systemic	Amenorrhoea
proglumetacin	1H-Indole-3-acetic acid, 1-(4-chlorobenzoyl)-5-methoxy-2-methyl-, 2-(4-(3-((4-(benzoylamino)-5-(dipropylamino)-1,5-dioxopentyl)oxy)propyl)-1-piperazinyl)ethyl ester, (+)- [CAS]	57132-53-3 59209-40-4	GB 1467568	Anti-inflammatory	Inflammation, general
progumide	Pentanoic acid, 4-(benzoylamino)-5-(dipropylamino)-5-oxo-, (+)- [CAS]	6620-60-6	DE 1518125	Antilulcer	Ulcer, gastric
Proheptazine		77-14-5			
Prolactin		9002-62-4			
Prolintane		493-92-5			
Prolonium		123-47-7			
Promazine		58-40-2			
Promedol		64-39-1			
Promegestone		34184-77-5			
promestriene	Estra-1,3,5(10)-triene, 17-methoxy-3-propoxy-, (17 $\beta$ )- [CAS]	39219-28-8	GB 1337198	Reproductive/gonadal, general	Acne
Promethazine		60-87-7			
Pronethalol		54-80-8			
propacetamol	Glycine, N,N-diethyl-, 4-(acetylamino)phenyl ester [CAS]	66532-85-2	US 4127671	Formulation, parenteral, other	
propafenone	1-Propanone, 1-[2-(2-hydroxy-3-(propylamino)propoxy)phenyl]-3-phenyl- [CAS]	66532-86-3			
Propagermanium		54063-53-5	GB 1307455	Antiarrhythmic	Fibrillation, ventricular
Propallylonal		12758-40-6			
Propamidine		545-93-7			
propane-1,2-diol		104-32-5			
Propanidid	1,2-propanediol	57-55-5			
Propantheline		1421-14-3			
Proparacaine		50-34-0			
Propatyl		499-67-2			
propenidazole	ethyl trans- $\alpha$ -acetyl-1-methyl-5-nitroimidazole-2-acrylate	2921-92-8		Formulation, dermal, topical	Infection, fungal, general
		76448-31-2		Antifungal	Infection, trichomoniasis

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API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
propentofylline	1H-Purine-2,6-dione, 3,7-dihydro-3-methyl-1-(5-oxohexyl)-7-propyl- [CAS]	55242-55-2	GB 1470220	Neuroprotective	Ischaemia, cerebral
Propicillin		551-27-9			
Propiomazine		362-29-8			
Propionic Acid		79-09-4			
propionyl L-carnitine	1-Propanaminium, 3-carboxy-N,N,N-trimethyl-2-(1-oxopropoxy)-, chloride, (R)- [CAS]	119793-66-7 20084-19-1	GB 2008578	Vasodilator, peripheral	Peripheral vascular disease
Propipocaine		3670-68-6			
Propiram		15686-91-6			
propiverine	2,2-diphenyl-2-(1-propoxy)acetic acid (1-methylpiperid-4-yl) ester hydrochloride	54556-98-8 60569-19-9		Urological	Incontinence
Propizepine		10321-12-7			
propofol	Phenol, 2,6-bis(1-methylethyl)- [CAS]	2078-54-8	US 4056635	Anaesthetic, injectable	Anaesthesia
Propoxycaine		550-83-4			
Propoxyphene		469-62-5			
proranolol	2-Propanol, 1-[(1-methylethyl)amino]-3-(1-naphthalenyloxy)- [CAS]	318-98-9 525-66-6		Formulation, modified-release, <=24hr	Hypertension, general
Propylhexedrine		101-40-6			
Propylodone		587-61-1			
Propylthiouracil		51-52-5			
Propyphenazone		479-92-5			
Proquazone		22760-18-5			
Proscillaridin		466-06-8			
Prostacyclin		35121-78-9			
Prostaglandin E <sub>1</sub>		745-65-3			
Prostaglandin E <sub>2</sub>		363-24-6			
Prostaglandin F <sub>2α</sub>		551-11-1			
Proslutamine		59-58-5			
Protein C		60202-16-6			
Prothobromine		50-39-5			
Prothipendyl		303-69-5			

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API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
<b>Protiofate</b>		58416-00-5			
<b>Protonamide</b>		14222-60-7			
protizinic acid	10H-Phenothiazine-2-acetic acid, 7-methoxy-Alpha,10-dimethyl-, (+/-)- [CAS]	13799-03-6	US 3450698	Anti-inflammatory	
<b>Protoanemonin</b>		108-28-1			
<b>Protokylol</b>		136-70-9			
<b>Protoporphyrin IX</b>		553-12-8			
<b>Protriptyline</b>		438-60-8			
<b>Pro-Urokinase</b>		182657-92-9			
<b>Proxazole</b>		5696-9-3			
<b>Proxibarbal</b>		2537-29-3			
proxigermanium	Propanoic acid, 3,3'-(1,3-dioxo-1,3-digermoxanediy)bis- [CAS]	12758-40-6	FR 2005110	Antiviral, other	Infection, hepatitis-B virus
<b>Proxiphylline</b>		603-00-9			
<b>Prozapine</b>		3426-8-2			
<b>Prucalopride</b>		179474-81-8			
prulifloxacin	1H,4H-[1,3]Thiazolo[3,2-a]quinoxaline-3-carboxylic acid, 6-fluoro-1-methyl-7-[4-[(5-methyl-2-oxo-1,3-dioxol-4-yl)methyl]-1-piperazinyl]-4-oxo- [CAS]	123447-62-1	EP 315828	Quinolone antibacterial	Infection, respiratory tract, general
<b>Pseudococaine</b>		478-73-9			
pseudoephedrine + triprolidine	Benzenemethanol, Alpha-[1-(methylanino)ethyl]-, hydrochloride, [S-(R*,R*)]-, mixt. with (E)-2-[1-(4-methylphenyl)-3-(1-pyrrolidinyl)-1-propenyl]pyridine monohydrochloride [CAS]				
pseudoephedrine	Benzenemethanol, Alpha-[1-(methylanino)ethyl]-, [S-(R*,R*)]- [CAS]	90-82-4, 8054-27-1, 345-78-8		Formulation, modified-release, other	Rhinitis, allergic, general
<b>Psilocybin</b>		520-52-5		Formulation, oral, other	Infection, respiratory tract, general
PSK-3841	Benzonitrile, 4-[3-(4-hydroxybutyl)-4,4-dimethyl-2,5-dioxo-1-imidazolidinyl]-2-(trifluoromethyl)- [CAS]	154992-24-2		Dermatological	Alopecia, general

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API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
p-Sulfamylbenzylamine		4393-19-5			
PT-141			US		
Pteropterin		89-38-3	6051555	Male sexual dysfunction	Impotence
Puromycin		53-79-2			
PX-12	1-Methylpropyl 2-mercaptoimidazolyl disulfide				
Pyrantel		15686-83-6			
Pyrazinamide		98-96-4			
Pyridinol Carbamate		1882-26-4			
Pyridostigmine Bromide		101-26-8		Anticancer, other	Cancer, general
Pyridoxal 5-Phosphate		54-47-7			
Pyridoxine		58-56-0			
Pyrimidine		91-84-9			
Pyrimethamine		58-14-0			
Pyrimidine		1740-22-3			
Pyrisuccideanol		33605-94-6			
Pyritnone		1121-30-8			
Pyridylidone		77-04-3			
Pyritinol		1098-97-1			
Pyrocatechol		120-80-9			
Pyrogallol		87-66-1			
Pyronardine		74847-35-1			
Pyrovalerone		3563-49-3			
Pyroxylin		9004-70-0			
Pyrobutamine		91-82-7			
Pyrocaine		2210-77-7			
Pyrolnitrin		1018-71-9			
Pyvinium Pamoate		3546-41-6			

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API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
quazepam	2H-1,4-Benzodiazepine-2-thione, 7-chloro-5-(2-fluorophenyl)-1,3-dihydro-1-(2,2,2-trifluoroethyl)- [CAS]	36735-22-5	US 3845039	Hypnotic/Sedative	Insomnia
Quercetin		117-39-5			
quetiapine	Ethanol, 2-[2-(4-dibenzo[b,f][1,4]thiazepin-11-yl-1-piperazinyl)ethoxy]-, (E)-2-butanedioate (2:1) (salt) [CAS]	111974-69-7 111974-72-2	EP 240228	Neuroleptic	Schizophrenia
Quinacillin		1596-63-0			
	N-(6-Chloro-2-methoxy-9-acridinyl)-N,N-diethyl-1,4-pentanediamine + 10H-Phenothiazine-10-propanamine, 2-chloro-N,N-dimethyl	83-89-6			
quinacrine				Neurological	Creutzfeldt-Jakob disease
	Sulfamide, N,N-diethyl-N'-((1,2,3,4,4a,5,10,10a-octahydro-6-hydroxy-1-propylbenzo[g]quinolin-3-yl)-, (3A $\alpha$ ,4a $\alpha$ ,10a $\beta$ )- (+)- [CAS]	87056-78-8 94424-50-7 97805-49-7	EP 77754	Antiprolactin	Hyperprolactinaemia
quinagolide					
	3-Isoquinolinecarboxylic acid, 2-[2-[[1-(ethoxycarbonyl)-3-phenylpropyl]amino]-1-oxopropyl]-1,2,3,4-tetrahydro-, [3S-[2(R*(R*),3R*)]- [CAS]	82586-55-8 85441-61-8 90243-99-6	EP 49605	Antihypertensive, renin system	Hypertension, general
quinapril					
	3-Isoquinolinecarboxylic acid, 2-[2-[(1-carboxy-3-phenylpropyl)amino]-1-oxopropyl]-1,2,3,4-tetrahydro-, [3S-[2(R*(R*),3R*)]- [CAS]	82768-85-2	EP 46953	Antihypertensive, renin system	Hypertension, general
Quinapyramine		20493-41-8			
Quinbolone		2487-63-0			
Quinestradiol		1169-79-5			
Quinestrol		152-43-2			
Quinethazone		73-49-4			
quinfamidine	2-Furancarboxylic acid, 1-(dichloroacetyl)-1,2,3,4-tetrahydro-6-quinoliny ester [CAS]	62265-68-3	US 3997542	Amoebicide	Arrhythmia, general
quinidine	Cinchonan-9-ol, 6'-methoxy-, (9S)-, sulfate (1:1) (salt) [CAS]	747-45-5 56-54-2		Formulation, modified-release, other	

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API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
Quinine		130-95-0			
Quinocidine		525-61-1			
Quinupramine		31721-17-2			
Quinupristin		120138-50-3			
R-107500	cis-2,3,3a,8-tetrahydro-N,N-dimethylidibenz(c,f)isoxazole[2,3-a]azepine-2-methanamine		WO 9614320	Anxiolytic	Anxiety, general
R-667			WO 0204439	COPD treatment	Emphysema, general
	1H-Benzimidazole, 2-[[4-(3-methoxypropoxy)-3-methyl-2-pyridinyl]methyl]sulfinyl]-, sodium salt- [CAS]	117976-89-3 117976-90-6			
rabeprazole	Glycine, N-[2-[(acetylthio)methyl]-1-oxo-3-phenylpropyl]-, phenylmethyl ester, (+)- [CAS]	112573-72-6 81110-73-8	EP 268958	Antidote	Ulcer, gastric
racecadotril		510-53-2	EP 38758	Antidiarrhoeal	Diarrhoea, general
Racemethorphan	Methanone, [6-hydroxy-2-(4-hydroxyphenyl)benzo(b)thien-3-yl][4-[2-(1-piperidinyl)ethoxy]phenyl]-, hydrochloride [CAS]	82640-04-8 84449-90-1	EP 62503	Osteoporosis treatment	Osteoporosis
raloxifene	L-glutamic acid, N-[5-[(1,4-dihydro-2-methyl-4-oxo-6-quinazolinyl)methyl]methylamino]-2-thienyl]carbonyl]- [CAS]	112887-68-0	EP 239362	Anticancer, antimetabolite	Cancer, colorectal
ralitrexed	9H-Carbazole-9-propanoic acid, 3-[[[(4-fluorophenyl)sulfonyl]amino]-1,2,3,4-tetrahydro-, (R)- [CAS]	116649-85-5 3615-24-5	EP 242518	Antiallergic, non-asthma	Rhinitis, allergic, perennial
ramatroban	Cyclopenta[b]pyrrole-2-carboxylic acid, 1-[2-[[1-(ethoxycarbonyl)-3-phenylpropyl]amino]-1-oxopropyl]octahydro-, [2S-[1[R*(R*)], 2Alpha, 3aB, 6aB]]- [CAS]	87269-97-4 87333-19-5	EP 79022	Antihypertensive, renin system	Heart failure
Ramifenazone	Methanone, (1-methyl-1H-indol-3-yl)(4,5,6,7-tetrahydro-1H-benzimidazol-5-yl)-, monohydrochloride, (R)- [CAS]	132907-72-3 132036-88-5	EP 381422	Antiemetic	Nausea and vomiting, general
ramipril					
ramosetron					

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API Generic Name Ranot project No. 1097	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
Ranimustine	1,1-Ethenediamine, N-[2-[[[5- ((dimethylamino)methyl)-2- furanyl]methyl]thio]ethyl]-N'-methyl-2-nitro- [CAS]	58994-96-0	US 5730992	Dermatological	Unspecified
ranitidine	1,2,3-Propanetricarboxylic acid, 2-hydroxy- bismuth(3+) salt (1:1), compd. with N-(2- [[[5-((dimethylamino)methyl)-2- furanyl]methyl]thio]ethyl)-N'-methyl-2-nitro- ethenediamine (1:1)- [CAS]	66357-35-5	US 4128658	Antiulcer	Ulcer, duodenal
ranitidine bismuth citrate	1-Piperazineacetamide, N-(2,6- dimethylphenyl)-4-[2-hydroxy-3-(2- methoxyphenoxy)propyl], (+)- [CAS]	128345-62-0	EP 533281	Antiulcer	Ulcer, duodenal
ranolazine	1H-Inden-1-amine, 2,3-dihydro-N-2- propynyl-, (R)-, [CAS]	95635-55-5 95635-56-6	EP 126449	Antianginal	Angina, general
Ranipimase		133737-96-9			
Rapacuronium		156137-99-4			
rasagiline		161735-79-1	US 5457133	Antiparkinsonian	Parkinson's disease
Raubasine		483-04-5			
ravuconazole	Benzonitrile, 4-[2-[(1R,2R)-2-(2,4- difluorophenyl)-2-hydroxy-1-methyl-3-(1H- 1,2,4-triazol-1-yl)propyl]-4-thiazolyl]- [CAS]	182760-06-1		Antifungal	Infection, meningitis, general
razofelsat	2-Benzofuranacetic acid, 5-(acetyl)-2,3- dihydro-4,6,7-trimethyl-, (+)- [CAS]	128232-14-4	US 4999350	Symptomatic antidiabetic	Nephropathy, diabetic
razoxane	2,6-Piperazinedione, 4,4'-(1-methyl-1,2- ethanediyl)bis- [CAS]	214165-1, 214168-5	GB 1234935	Anticancer, other	Cancer, general
RC-529	Tetradecanoic acid (1R)-1-(2-(2-(2-deoxy- 3-O-((3R)-1-oxo-3-((1- oxotetradecyl)oxy)tetradecyl)amino-4-O- phosphono-β-D- glucopyranosyl)oxy)ethyl)amino)-2- oxoethyl)dodecyl ester, compd. with N,N- diethylethanamine (1:1) [CAS]	216014-46-9		Immunosimulant, other	Vaccine adjunct
rebamipide	4-Quinolonepropanoic acid, Alpha-[(4- chlorobenzoyl)amino]-1,2-dihydro-2-oxo- [CAS]	90098-04-7	DE 3324034	Antiulcer	

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API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
rebimastat	L-Valinamide, N-(2S)-2-mercapto-1-oxo-4-(3,4,4-trimethyl-2,5-dioxo-1-imidazolidinyl)butyl-L-leucyl-N,3-dimethyl- [CAS]	259188-38-0		Anticancer, other	Cancer, lung, non-small cell
reboxetine	Morpholine, 2-[(2-ethoxyphenoxy)phenylmethyl]-, (R*,S*)- [CAS]	71620-89-8, 98769-81-4	US 4229449	Antidepressant	Depression, general
<b>Remacemide</b>		128298-28-2			
remifentanyl	1-Piperidinepropanoic acid, 4-(methoxycarbonyl)-4-(1-oxopropyl)phenylamino-methyl ester- [CAS]	132539-07-2, 132875-61-7	EP 383579	Analgesic, other	Pain, general
remimintant	Tricyclo[3.3.1.1 <sup>3,7</sup> ]decane-2-carboxylic acid, 2-[[1-(7-chloro-4-quinolyl)-5-(2,6-dimethoxyphenyl)-1H-pyrazol-3-yl]carbonyl]amino]- [CAS]	146362-70-1	EP 699438	Neuroleptic	Schizophrenia
<b>Remoxipride</b>		80125-14-0			
renzapride	Benzamide, 4-amino-N-1-azabicyclo[3.3.1]non-4-yl-5-chloro-2-methoxy- [CAS]	109872-41-5, 88721-77-1	JP 58188885	Gastroprokinetic	Irritable bowel syndrome
repaglinide	Benzoic acid, 2-ethoxy-4-[2-[[3-methyl-1-(2-(1-piperidinyl)phenyl)butyl]amino]-2-oxoethyl]-, (S)- [CAS]	135062-02-1	WO 9300337	Antidiabetic	Diabetes, Type II
repertaxin L-lysine salt	2(R)-4-Isobutylphenylpropionyl methanesulfonamide L-lysine salt		WO 0024710	Cardiovascular	Reperfusion injury
repinotan	1,2-Benzisothiazol-3(2H)-one, 2-(4-(((3,4-dihydro-2H-1-benzopyran-2-yl)methyl)amino)butyl)-, 1,1-dioxide, monohydrate [CAS]	144980-29-0, 144980-77-8	US 5137901	Neuroprotective	Ischaemia, cerebral
repirinast	4H-Pyranol[3,2-c]quinoline-2-carboxylic acid, 5,6-dihydro-7,8-dimethyl-4,5-dioxo-, 3-methylbutyl ester [CAS]	73080-51-0	US 4298610	Antiasthma	
<b>Reposal</b>		3625-25-0			



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API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
reproterol	1H-Purine-2,6-dione, 7-[3-[[2-(3,5-dihydroxyphenyl)-2-hydroxyethyl]amino]propyl]-3,7-dihydro-1,3-dimethyl- [CAS]	13065-82-8 54063-54-6	FR M5969	Antiasthma	Asthma
Rescimetol		73573-42-9			
Rescinnamine		24815-24-5			
Reserpiline		131-02-2			
Reserpine		50-55-5			
Resibufogenin		465-39-4			
resiquimod	1H-Imidazo(4,5-c)quinoline-1-ethanol(ethoxymethyl)-Alpha, Alpha-dimethyl- [CAS]	144875-48-9	US 5389640	Antiviral, other	Infection, hepatitis-C virus
Resorcinol		108-46-3			
Retsplase		133652-38-7			
retigabine	Carbamic acid, (2-amino-4-(((4-fluorophenyl)methyl)amino)phenyl)-, ethyl ester [CAS]	150812-12-7	DE 4200259	Antiepileptic	Epilepsy, general Cancer, leukaemia, acute myelogenous Cancer, myeloma
retinoic acid	Retinoic acid [CAS]	302-79-4	US 6261230	Formulation, parenteral, other Anticancer, other	
Revimid					
	[1,1'-Biphenyl]-4-acetic acid, 2-fluoro-Alpha-methyl	5104-49-4		Anticancer, other	Cancer, prostate
R-flurbiprofen					
Rho (D) Immune Globulin (Human)					
Rho-kinase inhibitors			WO 0156988	Antiasthma	Unspecified
ribavirin	1H-1,2,4-Triazole-3-carboxamide, 1-β-D-ribofuranosyl- [CAS]	36791-04-5	US 4211771	Antiviral, other	Infection, haemorrhagic fever
Riboflavin		146-17-8			
	D-Streptamine, O-2,6-diamino-2,6-dideoxy-Alpha-D-glucopyranosyl-(1-4)-O-[β-D-ribofuranosyl-(1-5)]-2-deoxy- [CAS]	25546-65-0	GB 1254883	Aminoglycoside antibiotic	Infection, general
ribostamycin		141-22-0			
Ricinoleic Acid					
Ridogrel		110140-89-1			

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API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
rifabutin	Rifamycin XIV, 1',4-didehydro-1-deoxy-1,4-dihydro-5'-(2-methylpropyl)-1-oxo-[CAS]	72559-06-9	US 4219478	Antimycobacterial	Infection, Mycobacterium avium complex
rifalazil	Rifamycin VIII, 1',4-didehydro-1-deoxy-1,4-dihydro-3'-hydroxy-5'-(4-(2-methylpropyl)-1-piperazinyl)-1-oxo-[CAS]	128791-92-0 128791-94-2 133633-12-2	EP 366914	Antimycobacterial	Infection, tuberculosis
rifameterane	Rifamycin, 3-[[1-(diethylamino)ethylidene]hydrazono]methyl]-[CAS]	94168-98-6	EP 119571	Antimycobacterial	Infection, general
Rifamide	Rifamycin, 3-[[4-methyl-1-piperazinyl]imino]methyl]-, mixt. with 5-[[3,4,5-trimethoxyphenyl]methyl]-2,4-pyrimidinediamine [CAS]	2750-76-7			
rifampicin + trimethoprim		61498-94-0		Formulation, fixed-dose combinations	Infection, general
Rifampin		13292-46-1			
Rifamycin SV		6998-60-3			
rifapentine	Rifamycin, 3-[[4-cyclopentyl-1-piperazinyl]imino]methyl]-[CAS]	61379-65-5	DE 2608218	Antibiotic, other	Infection, tuberculosis
rifaximin	Epoxypentadeca[1,11,13]trienimino)benzofuro[4,5-e]pyrido[1,2-a]benzimidazole-1,15(2H)-dione, 25-(acetyloxy)-5,6,21,23-tetrahydroxy-27-methoxy-2,4,11,16,20,22,24,26-octamethyl-, [2S-(2R*,16Z*,18E*,20R*,22S*,23S*,24S*,25R*,26S*,27R*,28E)]	80621-81-4	GB 2079270	Antibiotic, other	Infection, GI tract
rifaximine cream	4-deoxy-4'-methylpyrido[1',2'-1,2]imidazo[5,4-c]rifamycin SV	80621-81-4	BE 888895	Formulation, dermal, topical	Infection, dermatological
Rilmazafone		99593-25-6			
rifametinide	2-Oxazolamine, N-(dicyclopropylmethyl)-4,5-dihydro-[CAS]	54187-04-1 54249-57-9	DE 2362754	Antihypertensive, adrenergic	Hypertension, general
riluzole	2-Benzothiazolamine, 6-(trifluoromethoxy)-[CAS]	1744-22-5	EP 50551	Neuroprotective	Amiotrophic lateral sclerosis
Rimantadine		13392-28-4			

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API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
rimazolin	4H-Pyrido[1,2-a]pyrimidin-3-(ethoxycarbonyl)-6,7,8,9-tetrahydro-1,6-dimethyl-4-oxo-, [CAS]	28610-84-6 35615-72-6	DE 2461349	Analgescic, NSAID	
rimexolone	Androst-1,4-dien-3-one, 11-hydroxy-16,17-dimethyl-17-(1-oxopropyl)-, (11S,16Alpha,17S)- [CAS]	49697-38-3 32953-89-2	DE 2301317	Ophthalmological	Inflammation, ocular
rimonabant	1H-Pyrazole-3-carboxamide, 5-(4-chlorophenyl)-1-(2,4-dichlorophenyl)-4-methyl-N-1-piperidinyl-, monohydrochloride [CAS]	158881-13-1 19403-92-0 77287-05-9	US 5624941 US 3755251	Anorectic/Antiobesity Antiviral, other	Obesity
Rioprostil	1,3-Benzenediol, 2,4,6-triiodo- [CAS]				
risedronate	Phosphonic acid, (1-hydroxy-2-(3-pyridinyl)ethylidene)bis-, monosodium salt	115436-72-1 105462-24-6	EP 304961	Osteoporosis treatment	Paget's disease
Risedronic Acid	4H-Pyrido[1,2-a]pyrimidin-4-one, 3-[2-(4-fluoro-1,2-benzisoxazol-3-yl)-1-piperidinyl]ethyl-6,7,8,9-tetrahydro-2-methyl- [CAS]	106266-06-2	EP 196132	Neuroleptic, formulation, optimized, microencapsulate	Schizophrenia
Ritanserlin		87051-43-2 84845-57-8			
Ritipenem	Benzenemethanol, 4-hydroxy-Alpha-[1-[2-(4-hydroxyphenyl)ethyl]amino]ethyl-, (R*,S*)- [CAS]	23239-51-2 26652-09-5	US 3410944	Labour inhibitor	Labour, preterm
ritodrine					
ritonavir	2,4,7,12-Tetraazatridecan-13-ic acid, 10-hydroxy-2-methyl-5-(1-methylethyl)-1-(2-(1-methylethyl)-4-thiazolyl)-3,6-dioxo-8,11-bis(phenylmethyl)-, 5-thiazolyl-methyl ester, (5S-(5R*,10R*,11R*))- [CAS]	155213-67-5 174722-31-7	WO 9414436	Antiviral, anti-HIV	Infection, HIV/AIDS
Rituximab	Carbamic acid, ethylmethyl-, 3-[(dimethylamino)ethyl]phenyl ester, (S)- [CAS]	123441-03-2 129101-54-8		Cognition enhancer	Alzheimer's disease
rivastigmine			DE 3805744		

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trazoliptan	1H-Indole-3-ethanamine, N,N-dimethyl-5-(1H-1,2,4-triazol-1-ylmethyl)-, [CAS]	143202-55-0 159776-67-7 144034-80-0	EP 497512	Antimigraine	Migraine
RJR-2403	3-Buten-1-amine, N-methyl-4-(3-pyridinyl)-, (3E)-, (2E)-2-butenedioate (1:1) [CAS]	183288-99-5		Cognition enhancer	Alzheimer's disease
RNA Stealth Nucleosides	5-Formyluridine			Antiviral, other	Infection, hepatitis-C virus
Ro-0094889	2',3'-Di-O-acetyl-5'-vinylcytidine			Anticancer, antimetabolite	Cancer, general
Ro-61-1780	2-Pyridinesulfonamide, N-[6-(2-hydroxyethoxy)-5-(2-methoxyphenoxy)-2-[2-(1H-tetrazol-5-yl)-4-pyridinyl]-4-pyrimidinyl]-5-methyl-, [CAS]	180384-56-9	WO 9619459	Cardiovascular	Haemorrhage, subarachnoid
Rociverine	Pyrrolidinium, 1- [(2R,3A)alpha,5Alpha,16B,17B]-17-(acetyloxy)-3-hydroxy-2-(4-morpholinyl)androstane-16-yl]-1-(2-propenyl)-, bromide-, [CAS]	53716-44-2			
rocuronium	2-(5H)-Furanone, 4-(4-(methylsulfonyl)phenyl)-3-phenyl-, [CAS]	104855-17-5 104884-91-5 119302-91-9 143558-00-3	EP 287150	Muscle relaxant	Muscle spasm, general
rofecoxib	Benzamide, 3-(cyclopropylmethoxy)-N-(3,5-dichloro-4-pyridinyl)-4-(difluoromethoxy)-, [CAS]	162011-90-7	US 5474995	Analgesic, NSAID	Arthritis, osteo
roflumilast	Leucorhynchyl V, 4B-butanolate 3B-propanoate [CAS]	162401-32-3	WO 9501338	COPD treatment	Chronic obstructive pulmonary disease
rokitamycin		74014-51-0	US 4242504	Macrolide antibiotic	Infection, general
Rolipram		61413-54-5			
Rolitetracycline		751-97-3			
Romurtide		78113-36-7			
Ronifibrate		42597-57-9			
ropinirole	2H-Indol-2-one, 4-[2-(dipropylamino)ethyl]-1,3-dihydro-, monohydrochloride-, [CAS]	91374-20-8 91374-21-9	EP 266033	Antiparkinsonian	Parkinson's disease

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ropivacaine	2-Pipēridinēcarboxāmide, N-(2,6-dimethylphenyl)-1-propyl-, (S)- [CAS]	84057-95-4 98717-15-8	EP 239710	Anaesthetic, local	Anaesthesia
<b>Roquinimex</b>		84088-42-6			
rosaprostol	Cyclopentanepheptanoic acid, 2-hexyl-5-hydroxy- [CAS]	56895-65-9	GB 1523355	Prostaglandin	
<b>Rosaramicin</b>		35834-26-5			
<b>Rose Bengal</b>		632-68-8			
rosiglitazone	2,4-Thiazolidinedione, 5-((4-(2-(methyl-2-pyridinylamino)ethoxy)phenyl)methyl)-, (Z)-2-butenedioate (1:1) [CAS]	122320-73-4 155141-29-0	US 5002953	Antidiabetic	Diabetes, Type II
roxacin	3-Quinolīnēcarboxylic acid, 1-ethyl-1,4-dihydro-4-oxo-7-(4-pyridinyl)- [CAS]	40034-42-2	US 3753993	Quinolone antibacterial	Infection, gonorrhoea
roxaporphin	Tin, dichloro(ethyl 3,4,20,21-tetradecahydro-4,8,14,19-tetraethyl-18,19-dihydro-3,8,13,18-tetramethyl-20-phorbinecarboxylato(2-)-kappaN23,kappaN24,kappaN25,kappaN26)-, (OC-6-13)- [CAS]	114494-17-6		Ophthalmological	Macular degeneration
rosuvastatin	6-Heptanoic acid, 7-(4-(4-fluorophenyl)-6-(1-methyl-ethyl)-2-(methyl(methylsulfonyl)amino)-5-pyrimidinyl)-3,5-dihydroxy- (S-(R*, S*(E))) [CAS]	147098-20-2	JP 2648897	Hypolipaeamic/Antiatherosclerosis	Hyperlipidaemia, general
rotigotine	1-Naphthalenol, 5,6,7,8-tetrahydro-6-(propyl(2-(2-thienyl)ethyl)amino)-, (S)- [CAS]	99755-59-6	US 4564628	Antiparkinsonian	Parkinson's disease
<b>Rotaxate</b>		92071-51-7			
<b>Roxarsone</b>		121-19-7			
roxatidine	Acetamide, 2-(acetyloxy)-N-[3-{3-(1-piperidinylmethyl)phenoxy}propyl]-, [CAS]	78628-28-1 93793-83-0	EP 24510	Antulcer	Ulcer, gastric
roxibifen	L-Alanine, 3-(((3-(4-(aminiminomethyl)phenyl)-4,5-dihydro-5-isoxazolyl)acetyl)amino)-N-(butoxycarbonyl)-, methyl ester, (R)-, [CAS]	176022-59-6	US 5849736	Antithrombotic	Thrombosis, general
<b>Roxindole</b>		112192-04-8			

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roxithromycin	Erythromycin, 9-[O-[(2-methoxyethoxy)methyl]oxime] [CAS]	80214-83-1 80214-88-4	EP 33255	Macrolide antibiotic	Infection, general
RPR-109881A	Benzenepropanoic acid, 9-(((1,1-dimethylethoxy)carbonyl)amino)-Alpha-hydroxy- (1S,2S,4S,7R,8aR,9aS,10aR,12aS,12bR)-7,12a-bis(acetyloxy)-1-(benzyloxy)-1,3,4,7,8,9,9a,10,10a,12,12a,12b-dodecahydro-2-hydroxy-5,13,13-trimethyl-8-oxo-2,6-methano-2H-cyclodeca(3,4)cyclopropano (4,5) benz (1,2-b) oxet-4-yl ester, dihydrate Alpha R, betaS [CAS]	192573-38-9		Anticancer, other	Cancer, lung, general
RPR-130401	4,9-Ethano-3aH-benz[fi]indole-3a-carboxylic acid, 1,2,3,4,9,9a-hexahydro-2-[[2-(2-methoxyphenyl)-1-oxo-2-propenyl]-9-(4-methylphenyl)], (3aR,4S,9S,9aR)-rel- [CAS]	210282-69-2	WO 9829390 US 6316456	Anticancer, other Anticancer, other	Cancer, general Cancer, lung, non-small cell
R-roscovitine	N,N'-bis(3-hydroxyphenyl)pyridazine-3,6-diamine			Neuroprotective	Alzheimer's disease
RS-0406					
RSR-13		131179-95-8 79-58-3			
Rubifervine	1H-Pyrano[3',4':6,7]indolizino(1,2-b)quinoline-3,14(4H,12H)-dione, 4-ethyl-4-hydroxy-10-nitro-, (S)- [CAS]	91421-42-0	US 6485514	Anticancer, other	Cancer, pancreatic
rubitecan	9H,18H-5,21,12,17-Dimethenodibenzo(e,k)pyrrolo(3,4-h)(1,4,13)oxadiazacyclohexadecine-18,20(19H)-dione 9-(((dimethylamino)methyl)-6,7,10,11-tetrahydro-, (S)- [CAS]	169939-94-0 106308-44-5		Symptomatic antidiabetic	Retinopathy, diabetic
ruboxistaurin					
Rufinamide					

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nifloxacin	7H-Pyrido[1,2,3-de]-1,4-benzothiazine-6-carboxylic acid, 9-fluoro-2,3-dihydro-10-(4-methyl-1-piperazinyl)-7-oxo- [CAS]	101363-10-4	EP 165375	Quinolone antibacterial	Infection, general
		102052-47-1			
		106017-08-7			
nupatadine	5H-Benzof[5,6]cyclohepta[1,2-b]pyridine, 8-chloro-6,11-dihydro-11-[(5-methyl-3-pyridinyl)methyl]-4-piperidinylidene-, trihydrochloride- [CAS]	156611-76-6	EP 0577957	Antiallergic, non-asthma	Rhinitis, allergic, seasonal
		153-18-4			
RWJ-54428	5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 7-[(2Z)-(2-amino-5-chloro-4-thiazolyl)(hydroxymino)acetyl]amino-3-[(3-[(2-aminoethyl)thio]methyl)-4-pyridinylthio]-8-oxo-, (6R,7R)- [CAS]	189448-35-9	WO 9713772	Cephalosporin, injectable	Infection, beta-lactamase resistant
S-0139	Clean-12-en-28-oic acid, 27-[(3-[5-hydroxy-2-[(4-methoxy-1,4-dioxo-2-butenyl)amino]phenyl)-1-oxo-2-propenyl]oxy]-3-oxo- [CAS]	193969-54-9	WO 9727314	Cardiovascular	Ischaemia, cerebral
S-15535	Piperazine, 1-(2,3-dihydro-1,4-benzodioxin-5-yl)-4-(2,3-dihydro-1H-inden-2-yl)- [CAS]	146998-34-7		Cognition enhancer	Cognitive disorder, general
S-18886	1-Naphthalenepropanoic acid, 6-(((4-chlorophenyl)sulfonyl)amino)-5,6,7,8-tetrahydro-2-methyl [CAS]	165537-73-5		Antithrombotic	Thrombosis, general
S-34730	7-chloro-6-sulfamoyl-2-(1H)-quinolinone-3-phosphonic acid			Neuroprotective	Unspecified
S-3578	7[[2-(5-amino-1,2,4-thiadiazol-3-yl)-2(Z)-ethoxyminoacetamido]-3-(1-(N-methylaminopropyl)-1H-imidazol-4,5-bipyridinium-4-methyl-3-cephem-4-carboxylate monosulfate			Cephalosporin, injectable	Infection, general

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S-36496	2-[N-(4-Chlorophenylsulfonylamino)butyl]-N-(3-(4-isopropylthiazol-2-yl)methoxy)benzyl)sulfamoylbenzoic acid			Antiasthma	Asthma
S-36527	2-[N-(4-Chlorophenylsulfonylamino)butyl]-N-(3-(2-(4-cyclobutylthiazol-2-yl)ethyl)benzyl)sulfamoylbenzoic acid			Antiasthma	Asthma
S-5751	(1R,2R,3S,5S)-7-{2-[5-Hydroxybenzothioiphen-3-ylcarboxamido)-6,8-dimethylbicyclo[3.1.1]hept-3-yl]-5(Z)-heptenoic acid			Antiallergic, non-asthma	Allergy, general
S-8510	Imidazo[4,5-d]pyran[4,3-b]pyridine, 1,6,7,9-tetrahydro-2-(3-isoxazolyl)-, phosphate (1:1) [CAS]	151466-23-8	EP 556008	Cognition enhancer	Alzheimer's disease
S-8921	2-Naphthalenecarboxylic acid, 1-(3,4-dimethoxyphenyl)-3-(3-ethyl-1-oxopentyl)-4-hydroxy-6,7,8-trimethoxy-, methyl ester [CAS]	151165-96-7	WO 9308155	Hypolipaeamic/Antiatherosclerosis	Hypercholesterolaemia
Sabcomeline	(S)-(+)-2-[4-(3-fluorobenzoyloxy)benzylamino]propanamide methanesulfonate	159912-53-5	AU 711309	Antiepileptic	Epilepsy, general
Sabeluzole		104383-17-7			
S-Adenosylmethionine		29908-03-0			
safinamide		133865-89-1			
Salacetamide	1,3-Benzenedimethanol Alpha1-[(1,1-dimethylethyl)amino]methyl]-4-hydroxy-[CAS]	487-48-9	EP 451745	Formulation, inhalable, topical, dry powder	Asthma
Salazosulfadimidine		2315-8-4			
sabutamol		18559-94-9			
Salicin		138-52-3			
Salicyl Alcohol		90-01-7			



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Salicylamide	1,3-Benzenedimethanol, 4-hydroxy-Alpha1- [[[6-(4-phenylbutoxy)hexyl]amino]methyl]- (3)-1-hydroxy-2-naphthalenecarboxylate [CAS]	65-45-2	WO 9006775	Antiasthma	Asthma
Salicylamide O-Acetic Acid		25395-22-6			
Salicylanilide		87-17-2			
Salicylic Acid		69-72-7			
Salicylsulfuric Acid		89-45-2			
Salinazid		495-84-1			
salmeterol	L-Tyrosine, N2-(methylsulfonyl)-L-tyr-1- [(2S)-3-amino-2- carboxypropyl]cyclopentanecarbonyl- [CAS]	89365-50-4	EP 358398	Antihypertensive, renin system	Hypertension, general
Salsalate		94749-08-3			
Salverine		552-94-3			
Samarium 14Sm		6376-26-7			
Lexidronam	4(1H)-Pteridinone, 2-amino-6-(1,2- dihydroxypropyl)-5,6,7,8-tetrahydro-, dihydrochloride, [6R-[6R*(1R*,2S*)]]- [CAS]	12991-38-8	EP 191335	Antidepressant	Hyperphenylalaninaemia
sampatritat		808-26-4			
Sancycline		110588-57-3			
Saperconazole	Butanediamide, N1-[3-[3-[(1,1- dimethylethyl)amino]carbonyl]octahydro- 2(1H)-isquinolinyl]-2-hydroxy-1- (phenylmethyl)propyl]-2-[(2- quinolinylcarbonyl)amino], [3S- [2] [1R*(R*),2S*,3Alpha,4aS,8aS]]- [CAS]	69056-38-8 62989-33-7	EP 432695	Antiviral, anti-HIV	Infection, HIV/AIDS
sapropterin					
sequinavir		127779-20-8			
Saralasin		34273-10-4			

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saredutant	Benzamide, N-[4-(4-(acetylamino)-4-phenyl-1-piperidinyl)-2-(3,4-dichlorophenyl)butyl]-N-methyl-, (S)- [CAS]	142001-63-6	EP 474561	Antiasthma	Asthma
saizotan	3-Pyridinemethanamine, N-(3,4-dihydro-2H-1-benzopyran-2-yl)methyl)-5-(4-fluorophenyl)- [CAS]	177975-08-5		Antiparkinsonian	Parkinson's disease
sarpogrelate	Butanedioic acid, mono[2-(dimethylamino)-1-[2-[2-(3-methoxyphenyl)ethyl]phenoxy]methyl]ethyl] ester [CAS]	125926-17-2	EP 398326	Antithrombotic	
Satigrel	Platinum, bis(acetato-O)amminedichloro(cyclohexanamine)-, (OC-6-43)- [CAS]	111753-73-2		Anticancer, alkylating	Cancer, prostate
Satumomab	N-[3-[2-(3,4-dimethoxyphenyl)ethyl]amino]propyl]-4-nitrobenzamide, HCl	129580-63-8	EP 328274	Antiarhythmic	Fibrillation, atrial
SB-237376	(5-(2-phenylamino-4-pyrimidinyl)-4-(4-fluorophenyl)-1-(4-piperidinyl)imidazole	144058-40-2		Anticancer, other	Cancer, general
SB-238039	trans-N-[4-[2-(6-Cyano-1,2,3,4-tetrahydroisoquinolin-2-yl)ethyl]cyclohexyl]-4-quinolinecarboxamide			Neuroleptic	Schizophrenia
SB-277011		85-83-6			
Scarlet Red	Benzonitrile, 4-[2-[3,6-dihydro-4-(1,4,5,6-tetrahydro-6-oxo-3-pyridazinyl)-1(2H)-pyridinyl]-1-hydroxyethyl]- [CAS]	217963-18-3	EP 618204	Cardio stimulant	Heart failure
SCH-00013	(2-[10,11-Dihydro-5-ethoxy-5H-dibenzo[a,d] cyclohepten-5-yl]-N, N-dimethylethanamine			Immunosuppressant	Inflammation, general
Sch-23863					

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Sch-5790	1-Piperazineacetoneitrile, 4-cyclohexyl-alpha-[4-(S)-(4-methoxyphenyl)sulfinyl]phenyl- [CAS]	221660-80-6		Cognition enhancer	Alzheimer's disease
Sch-63390	7H-Pyrazolo[4,3-e][1,2,4]triazolo[1,5-c]pyrimidin-5-amine, 2-(2-furanyl)-7-(3-phenylpropyl)- [CAS]	174648-45-4		Antiparkinsonian	Parkinson's disease
Scillarenin		465-22-5			
Scopolamine		51-34-3			
Scopolamine N-Oxide		97-75-6			
scopolamine	Benzeneacetic acid, Alpha-(hydroxymethyl)-, 9-methyl-3-oxa-9-azatricyclo[3.3.1.0 <sup>2,4</sup> ]non-7-yl ester, [7(S)-(1Alpha,2B,4B,5Alpha,7B)]- [CAS]	51-34-3	US 4262003	Formulation, transdermal, other	Nausea and vomiting, general Unspecified
SCS technology			US 6046188	Antisthma	
secalciferol	9,10-Secosteroid-5,7,10(19)-triene-3,24,25-triol, (3B,5Z,7E,24R)- [CAS]	55721-11-4	EP 301167	Osteoporosis treatment	Osteodystrophy
secnidazole	1H-Imidazole-1-ethanol, Alpha,2-dimethyl-5-nitro- [CAS]	3366-95-8	FR M3270	Protozoacide	Infection, trichomoniasis
Secobarbital		309-43-3			
selegiline	Benzanethanamine, N,Alpha-dimethyl-N-2-propynyl-, (R)- [CAS]	14611-51-9	GB 1153578	Antiparkinsonian	
Selenomethionine		1464-42-2			
Sematilide		101526-83-4			
Semotiadil		116476-13-2			
seocalcitol	1,3-Cyclohexanediol, 5-(1-(6-ethyl-8-hydroxy-1-methyl-2,4-octadienyl)octahydro-7a-methyl-4H-inden-4-ylidene)ethylidene)-4-methylene-, (1R-(1Alpha(1R*,2E,4E),3aB,4E(1R*,3S*,5Z),7aAlpha))- [CAS]	134404-52-7	WO 9100855	Anticancer, other	Cancer, liver
Sepimostat		103926-84-3			
seratrodast	Benzeneheptanoic acid, zeta-(2,4,5-trimethyl-3,6-dioxo-1,4-cyclohexadien-1-yl)-, (+)- [CAS]	103187-07-1 112665-43-7	EP 232089	Antisthma	Asthma

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sertaconazole	1H-Imidazole, 1-[2-[(7-chlorobenz[b]thien-3-yl)methoxy]-2-(2,4-dichlorophenyl)ethyl]- [CAS]	99592-32-2	EP 151477	Antifungal	Infection, dermatological
sertindole	2-Imidazolidinone, 1-[2-[4-[5-chloro-1-(4-fluorophenyl)-1H-indol-3-yl]-1-piperidinyl]ethyl]- [CAS]	106516-24-9	EP 392959	Neuroleptic	Schizophrenia
sertraline	1-Naphthalenamine, 4-(3,4-dichlorophenyl)-1,2,3,4-tetrahydro-N-methyl-, (1S-cis)- [CAS]	79559-97-0 79617-96-2 79617-97-3	EP 30081	Antidepressant	Depression, general
<b>Setastine</b>		64294-95-7			
sevelamer	2-Propen-1-amine polymer with (chloromethyl)oxirane, hydrochloride [CAS]	152751-57-0 52757-95-6	US 5496545	Urological	Renal failure
sevoflurane	Propane, 1,1,1,3,3,3-hexafluoro-2-(fluoromethoxy)- [CAS]	28523-86-6	DE 1954268	Anaesthetic, inhalation	Anaesthesia
SG-210	2H-1,4-Benzothiazine-2-acetic acid, 3,4-dihydro-3-oxo-4-[(4,5,7-trifluoro-2-benzothiazolyl)methyl]- [CAS]	143162-65-6		Symptomatic antidiabetic	Neuropathy, diabetic
sibutramine	Cyclobutanemethanamine, 1-(4-chlorophenyl)-N,N-dimethyl- $\alpha$ -(2-methylpropyl)- [CAS]	106650-56-0 84485-00-7	GB 2098602	Anorectic/Antiobesity	Obesity
siccanin	(4aS- (4a $\alpha$ ,11b $\alpha$ ,13aR*,13b $\alpha$ lp,11b,13b-decahydro-4,4,6a,9-tetramethyl-13H-benzo[a]furo[2,3,4-mn]pantren-11-ol)	22733-60-4	JP 37003548	Antifungal	
sildenafil	Piperazine, 1-[(3-(4,7-dihydro-1-methyl-7-oxo-3-propyl-1H-pyrazolo[4,3-d]pyrimidin-5-yl)-4-ethoxyphenyl)sulfonyl]-4-methyl, 2-hydroxy-1,2,3-propanetricarboxylate- (1:1) [CAS]	171599-83-0 139755-83-2	WO 9428902	Male sexual dysfunction	Impotence
sibodisin	1H-Indole-7-carboxamide, 2,3-dihydro-1-(3-hydroxypropyl)-5-[(2R)-2-[2-(2,2,2-trifluoroethoxy)phenoxy]ethyl]amino]propyl]- [CAS]	160970-54-7 128-00-7	EP 600675	Urological	Dysuria
<b>Silver Lactate</b>					

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Silver Picrate	N <sup>2</sup> -2-pyrimidinylsulfanilamide monosilver salt	146-84-9 22199-08-2 68-35-9		Anti-infective, other	Infection, general
silver sulfadiazine					
Simetride		154-82-5			
Simfibrate		14929-11-4			
	Butanoic acid, 2,2-dimethyl-, 1,2,3,7,8,8a-hexahydro-3,7-dimethyl-6-[2-(tetrahydro-4-hydroxy-6-oxo-2H-pyran-2-yl)ethyl]-1-naphthalenyl ester, [1S-[1Alpha,3Alpha,7B,8B(2S*,4S*),8aB]]-[CAS]				
simvastatin		79902-63-9	US 4444784	Hypolipaeamic/Antiatherosclerosis	Hyperlipidaemia, general
Sincalide		25126-32-3			
Sintropium Bromide		79467-19-9			
Sisomicin		32385-11-8			
	3-Quinolonecarboxylic acid, 7-(7-amino-5-azaspiro[2.4]hept-5-yl)-8-chloro-6-fluoro-1-(2-fluorocyclopropyl)-1,4-dihydro-4-oxo-, [1R-[1Alpha(S*),2Alpha]]-, hydrate				
sitafloxacin		127254-12-0	EP 341493	Quinolone antibacterial	Infection, general
	1,6-Hexanediamine, N,N-diethyl-N-(6-methoxy-4-methyl-8-quinolinyl)-, [CAS]	5330-29-0 57695-04-2		Protozoacide	Infection, leishmaniasis
sitamaquine					
	N-(4-Chloro-3-methyl-5-isoxazolyl)-2-[4,5-(methylenedioxy)-o-tolyl]acetyl]-3-thiophenesulfonamide				
sitaxsentan		184036-34-8	US 5464853	Antihypertensive, other	Hypertension, pulmonary
	Glycine, N-[2-[[[4-(2,2-dimethyl-1-oxopropoxy)phenyl]sulfonyl]amino]benzoyl]-, [CAS]				
sivelestat		127373-66-4	EP 347168	Respiratory	Systemic inflammatory response syndrome
	Butanamide, 2-[[[4-fluorophenyl]sulfonyl]amino]-N-[(1S)-1-formyl-3-methylbutyl]-, 3-methyl-, (2S)-[CAS]				
SJA-6017		190274-53-4	EP 771565	Ophthalmological	Cataract
	6-Fluoro-9-methyl-2-phenyl-4-pyrrolidin-1-ylcarbonyl)-2,9-dihydro-1H-pyrido[3,4-b]indole-1-one				
SL-65-1498			EP 607076	Anxiolytic	Anxiety, general

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SLV-306	(3S,2R)-3-{1-[2'-(Ethoxycarbonyl)-4'-phenyl-butyl]-cyclopentan-1-carbonylamino}-2,3,4,5-tetra-hydro-2-oxo-1H-benzapin-1-acetic acid			Antihypertensive, diuretic	Hypertension, general
SLV-308	2-(3H)-Benzoxazolone, 7-(4-methyl-1-piperazinyl)-, monohydrochloride	269718-83-4		Antiparkinsonian	Parkinson's disease
Sm153 leixidronam	Samarate(5-)-153Sm, (((1,2-ethanediybis(nitriobis(methylene)))tetraakis(phosphonato)))(8-)-N,N',O,P,OP',OP'',OP'''-, pentasodium, (OC-6-21)- [CAS]	160369-78-8		Analgesic, other	Pain, cancer
<b>S-Methylmethionine</b>		4727-40-6			
SMP-300	N-(Aminiminomethyl)-11-chloro-5,6,7,8-tetrahydro-8-oxo-4H-pyrrolo[3,2,1-k][1]benzazocine-2-carboxamide monomethanesulfonate monohydrate			Antianginal	Angina, general
SN-38	(4S)-4,7,11-triethyl-3,4,12,14-tetrahydro-4,10-dihydroxy-3,14-dioxo-1H-pyrano[3',4':6,7]indolizino[1,2-b]quindin-9-yl	100286-90-6		Formulation, optimized, liposomes	Cancer, colorectal
SNAP-7941	((+)-methyl (4S)-3-[(3-(4-[3-(acetylamino)phenyl]-1-piperidinyl)propyl)amino] carbonyl)-4-(3,4-difluorophenyl)-6-(methoxymethyl)-2-oxo-1,2,3,4-tetrahydro-5-pyrimidinecarboxylate hydrochloride)			Anxiolytic	Anxiety, general
SOA-132	2-Naphthalenecarboxamide, N-[2-[4-(diphenylmethoxy)-1-piperidinylethyl]-3-hydroxy-5-(3-pyridinylmethoxy)-] [CAS]	143964-80-1		Formulation, inhalable, topical	Asthma

Table IV

API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
soblidotin	L-valinamide, N,N-dimethyl-L-valyl-N-[2-methoxy-4-[2-[(1-methoxy-2-methyl-3-oxo-3-[(2-phenylethyl)amino]propyl)-1-pyrrolidinyl]-1-(2-methylpropyl)-4-oxobutyl]-N-methyl-, [2S-[1[1R*(R*),2S*,2R*(1S*,2S*)]]- [CAS]	149606-27-9	WO 9303054	Anticancer, other	Cancer, lung, non-small cell
Sobrerol		498-71-5			
sobuzoxane	Carbonic acid, 1,2-ethanedithybis[(2,6-dioxo-4,1-piperazinediyl)methylene]bis(2-methylpropyl) ester [CAS]	98631-95-9	EP 140327	Anticancer, other	Cancer, lymphoma, T-cell
Sodium Arsanilate		127-85-5			
Sodium Arphenamine		1936-28-3			
Sodium Chloride					
Sodium Dibunate		14992-59-7			
Sodium Folate		6484-89-5			
Sodium Formaldehydesulfoxylat <sup>e</sup>		149-44-0			
Sodium Glycerophosphate		1334-74-3			
Sodium Hyaluronate					
Sodium Iodomethamate		519-26-6			
Sodium Nitrite		7632-00-0			
Sodium Nitroprusside		14402-89-2			
sodium oxybate	Butyric acid, 4-hydroxy monosodium salt [CAS]	502-85-2		Psychostimulant	Narcolepsy
Sodium Phenolsulfonate		1300-51-2			
sodium phenylbutyrate	Butyric acid, 4-phenyl-, sodium salt- [CAS]	1716-12-7		Formulation, other	Hyperammonaemia

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sodium phosphate	Sodium phosphate monobasic monohydrate + sodium phosphate dibasic anhydrous		US 6162464	Formulation, oral, other	Surgery adjunct
sodium prasterone sulfate	3 $\beta$ -hydroxy-5-androstan-17-one(sodium sulfate dihydrate)		EP 380036	Formulation, mucosal, topical	Labour, induction
<b>Sodium Propionate</b>		137-40-6			
sodium salicylate	Benzoic acid, 2-hydroxy-, monosodium salt [CAS]	54-21-7		Formulation, oral, solubility-enhanced	Pain, general
<b>Sodium Tetradecyl Sulfate</b>		139-88-8			
sotalone	Acetic acid, [5-[(3-methyl-2-butenyloxy)-2-[3-(4-[(3-methyl-2-butenyloxy)phenyl]-1-oxo-2-propenyl)phenoxy]-] [CAS]	64506-49-6	GB 1523241	Antituber	
<b>Solasulfone</b>		133-65-3			
	Butanedioic acid compd with (1S)-(3R)-1-azabicyclo(2.2.2)oct-3-yl 3,4-dihydro-1-phenyl-2(1H)-isoquinolinecarboxylate (1:1) [CAS]	242478-38-2		Urological	Overactive bladder
sorlifenacin	D-Glucitol, hexa-3-pyridinecarboxylate [CAS]	6184-06-1	BE 883352	Hypolipaemic/Antiatherosclerosis	
Sorbitrate		50-70-4			
<b>Sorbitol</b>		77181-69-2			
<b>Sorivudine</b>					
sotalol	Methanesulfonamide, N-[4-(1-hydroxy-2-[(1-methylethyl)amino]ethyl)phenyl]- [CAS]	3930-20-9 959-24-0		Antiarrhythmic	
<b>Soterinol</b>		13642-52-9			
<b>Soziodololic Acid</b>		554-71-2			
sparglumic acid	L-Glutamic acid, N-(N-acetyl-L-Alpha-aspartyl)- [CAS]	3106-85-2 80619-64-3		Formulation, mucosal, topical	Conjunctivitis
	3-Quinolonecarboxylic acid, 5-amino-1-cyclopropyl-7-(3,5-dimethyl-1-piperazinyl)-6,8-difluoro-1,4-dihydro-4-oxo-, cis- [CAS]				
sparfloxacin		110871-86-8	EP 221463	Quinolone antibacterial	Infection, respiratory tract, general
<b>Spartaine</b>		90-39-1			



Table IV

API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
SPA-S-843	Candicin D, 18-decarboxy-40-demethyl-3,7-dideoxo-N <sup>3</sup> -(dimethylamino)acetyl)-18-((2-(dimethylamino)ethyl)amino)carbonyl)-3,7-dihydroxy-N47-methyl-5-oxo cyclic 15,19-hemiacetal, comp with L-ascorbic acid (1:2) [CAS]	202748-83-2	US 5298495	Antifungal	Infection, fungal, general
Spasmolytol	2(1H)-Pyrimidinone, 4-amino-1-(2-(hydroxymethyl)-1,3-oxathiolan-4-yl)- (2R, cis)-	25333-96-4			
SPD-754	4-[3-(4-Oxo-4,5,6,7-tetrahydroindol-yl)propionylamino]benzoic acid ethyl ester	160707-69-7	US 6228860	Antiviral, anti-HIV	Infection, HIV/AIDS
Spectinomycin		1695-77-8		Cognition enhancer	Alzheimer's disease
SPI-339		749-02-0			
Spiperone	1,4-Dithia-7-azaspiro[4.4]nonane-8-carboxylic acid, 7-[2-[[1-(ethoxycarbonyl)-3-phenylpropyl]amino]-1-oxopropyl]-, [8S-[7(R*(R*)),8R*]]- [CAS]	83647-97-8	EP 50800	Antihypertensive, renin system	Hypertension, general
spirapril	Pregn-4-ene-21-carboxylic acid, 7-(acetylthio)-17-hydroxy-3-oxo-Gamma-lactone, (7Alpha, 17Alpha)- [CAS]	41992-23-8			
Spirogermanium		52-01-7	EP 124147	Formulation, dermal, topical	Acne
spironolactone	Benzamide, N-(1,1-dimethylethyl)-4-[[cis-5'-ethoxy-4-[2-(4-morpholinyl)ethoxy]-2'-oxospiro(cyclohexane-1,3'-[3H]indol)-1'(2'H)-yl]sulfonyl]-3-methoxy- [CAS]	185913-78-4	WO 9715556	Cardio stimulant	Heart failure
SR-121463	Morpholine, 4-benzoyl-2-(3,4-difluorophenyl)-2-[2-(4-[[[dimethylamino]carbonyl]amino]-4-phenyl]-1-piperidinyl)ethyl]-, (2R)- [CAS]	201152-88-5	WO 9623787	Anxiolytic	Anxiety, general

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API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
SR-146131	1H-Indole-1-acetic acid, 2-[[4-(4-chloro-2,5-dimethoxyphenyl)-5-(2-cyclohexylethyl)-2-thiazolyl]amino]carbonyl]-5,7-dimethyl-[CAS]	221671-61-0	WO 9915525	Anorectic/Antiobesity	Obesity
SR-271425	N-[1-[2-(diethylamino)ethylamino]-7-methoxy-9-oxo-9H-thioxanthen-4-ylmethyl]formamide			Anticancer, alkylating	Cancer, general
SR-27897	1H-Indole-1-acetic acid, 2-[[4-(2-chlorophenyl)-2-thiazolyl]amino]carbonyl]-[CAS]	136381-85-6	EP 432040	Anticancer, other	Cancer, pancreatic
SR-31747	Cyclohexanamine, N-(3-(3-chloro-4-cyclohexylphenyl)-2-propenyl)-N-ethyl-, hydrochloride, (Z)- [CAS]	132173-07-0	EP 376850	Anticancer, other	Cancer, myeloma
SR-58611	Acetic acid, [(7S)-7-[(2R)-2-(3-chlorophenyl)-2-hydroxyethyl]amino]-5,6,7,8-tetrahydro-2-naphthalenyl]oxyl-, ethyl ester, hydrochloride [CAS]	121524-09-2	EP 303546	GI inflammatory/bowel disorders	Irritable bowel syndrome
SS732	(R)-(-)-2-(2,4-difluorophenyl)-1-(ethylsulfonyl)-1,1-difluoro-3-(1H-1,2,4-triazol-1-yl)-2-propanol		US 5385900	Formulation, mucosal, topical	Infection, ocular
SS-750	Propanamide, N, N'(dithiodi-2,1-ethanediy)bis(3-amino)- [CAS]		US 6083968	Antifungal	Infection, fungal, general
U-alethine	(2S,4R)-1-[5-chloro-1-[(2,4-dimethoxyphenyl)sulfonyl]-3-(2-methoxyphenyl)-2-oxo-2,3-dihydro-1H-indol-3-yl]-4-hydroxy-N,N-dimethyl-2-pyrrolidine carboxamide	646-08-2		Anticancer, immunological	Cancer, myeloma
SSR-149415	2-(7-chloro-5-methyl-4-oxo-3-phenyl-4,5-dihydro-3H-pyridazinol-4,5,6-trimethyl)-N,N-dimethylacetamide		WO 0155130	Antidepressant	Depression, general
SSR-180575				Neuroprotective	Unspecified

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API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
SSR-181507	(3-Exo)-8-benzoyl-N-[[2S)-7-chloro-2,3-dihydro-1,4-benzodioxin-2-yl]methyl]-8-azabicyclo[3.2.1]octane-3-methanamine HCl		US 6221879	Neuroleptic	Schizophrenia
SSR-591813	(5aS,8S,10aR)-5a,6,9,10-tetrahydro, 7H,11H-8,10a-methanopyrido[2',3':5,6]pyrano[2,3-d]azepine			Dependence treatment	Addiction, nicotine
SST-101	D-Glucitol, 1,4:3,6-dianhydro-, dinitrate [CAS]	87-33-2		Formulation, transdermal, other	Angina, general
SSY-726	(-)-(R)-3-Methyl-3-(methylsulfonyl)-1-(1,2,4-triazol-1-yl)-2-[4-(trifluoromethyl)phenyl]-2-butanol		US 5147886	Antifungal	Infection, fungal, general
ST-200	1-Propanaminium, 2-(acetoxy)-3-carboxy-N,N,N-trimethyl-, chloride, (R)- [CAS]	5080-50-2	DE 3015635	Cognition enhancer	Dementia, senile, general
stachylin		636-47-5	WO 9711947	Antiviral, other	Infection, influenza virus
Stallimycin			US 6350736	Antiviral, anti-HIV	Infection, HIV/AIDS
Stampidine		15578-26-4			
Stannous					
Pyrophosphate	(OC-6-13)-Dihydrogen dichloro[7,12-diethyl-3,8,13,17-tetramethyl-21H,23H-porphine-2,18-dipropionate(4-)-N21,N22,N23,N24]stannate(2-)	106344-20-1		Hepatoprotective	Hyperbilirubinaemia
stannosporfin		521-18-6			
Stanolone		10418-03-8			
Stanozolol		(2'H form); 302-96-5 (1'H form)			
Staph aureus ther			US 6376652	Genomics-based drug discovery	Infection, MRSA
STAT4 inhibitors			WO 9628341	Immunosuppressant	Unspecified

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API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
stavudine	Thymidine, 2',3'-dideoxy-3'-deoxy- [CAS]	3056-17-5	EP 501511	Antiviral, anti-HIV	Infection, HIV/AIDS
<b>Stenbolone</b>		5197-58-0			
streptin	Glycine, N-[1-oxo-2-[(2-thienylcarbonyl)thio]propyl]- [CAS]	72324-18-6	US 4242354	Antitussive	Cough
<b>Stibocaptate</b>		27279-76-1			
<b>Stibophen</b>		15489-16-4			
<b>Stilbamidine</b>		122-06-5			
striptenol	1-Pentan-3-ol, 1-(1,3-benzodioxol-5-yl)-4,4-dimethyl- [CAS]	49763-96-4		Antiepileptic	Epilepsy, general
<b>Streptodornase</b>		37340-82-2			
<b>Streptomycin</b>		57-92-1			
<b>Streptonicozid</b>		5667-71-0			
<b>Streptonigrin</b>		3930-19-6			
<b>Streptozocin</b>		18883-66-4			
strontium ranelate	3-Thiophenacetic acid, 5-[bis(carboxymethyl)amino]-2-carboxy-4-cyano-, strontium salt (1:2)- [CAS]	135459-87-9	EP 415850	Osteoporosis treatment	Osteoporosis
strontium-89 chloride	Strontium chloride (89SrCl <sub>2</sub> ) [CAS]	38270-90-5		Analgesic, other	Pain, cancer
<b>Succimer</b>		304-55-2			
<b>Succinimide</b>		123-56-8			
<b>Succinylcholine</b>		55-94-7			
<b>Succinylcholine</b>		71-27-2			
<b>Succinylsulfathiazole</b>		116-43-8			
<b>Succisulfone</b>		5934-14-5			
<b>Suclofenide</b>		30279-49-3			
	Aluminium, hexadeca-μ-hydroxytetraacosahydroxy(μ <sub>8</sub> -(1,3,4,6-tetra-O-sulfo-β-D-fructofuranosyl-Alpha-D-glucopyranoside tetrakis(hydrogen sulfato)(6-))hexadeca- [CAS]				
sucralfat	Propanamide, N-[4-(methoxymethyl)-1-[2-(2-thienyl)ethyl]-4-piperidinyl]-N-phenyl- [CAS]	54182-58-0	JP 58208233	Antituberc, Formulation, oral, other	Ulcer, general
sufentanil		56030-54-7	US 3998834	Analgesic, other, formulation implant	Pain, general

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API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
sulbactam	4-Thia-1-azabicyclo[3.2.0]heptane-2-carboxylic acid, 3,3-dimethyl-7-oxo-, 4,4-dioxide, (2S-cis)- [CAS]	68373-14-8	GB 2000138	Antibiotic, other	Infection, general
sulbactam + ampicillin		117060-71-6	US 4234579	Antibiotic, other	Infection, general
subentcilin	4-Thia-1-azabicyclo[3.2.0]heptane-2-carboxylic acid, 3,3-dimethyl-7-oxo-6-[[phenylsulfonamido]amino]-, [2S-[2Alpha,5Alpha,6beta(S*)]]- [CAS]	28002-18-8 41744-40-5	GB 1289358	Penicillin, injectable	Infection, pseudomonal
Sulbentine	Propanoic acid, 2-methyl-, dithiobis[3-{1-[[[(4-amino-2-methyl-5-pyrimidinyl)methyl]formylamino]ethylidene]-3,1-propanediyl} ester] [CAS]	350-12-9			
subutamine	1H-Imidazole, 1-[2-[[[(4-chlorophenyl)methyl]thio]-2-(2,4-dichlorophenyl)ethyl]-, (+)-] [CAS]	3286-46-2 67-16-3		Neurological	Unspecified
subonazole		61318-90-9 61318-91-0	US 4055652	Antifungal	Infection, fungal, general
Sulesomab		167747-19-5			
Sulfabenzamide		127-71-9			
Sulfacetamide		144-80-9			
Sulfachlorpyridazine		80-32-0			
Sulfachrysoidine		485-41-6			
Sulfacytine		17784-12-2			
Sulfadiazine		68-35-9			
Sulfadiazine		115-68-4			
Sulfadiazine		122-11-2			
Sulfadimethoxine		2447-57-6			
Sulfadoxine		94-19-9			
Sulfaethidole		57-67-0			
Sulfaguanidine		27031-08-9			
Sulfaguanole		152-47-6			
Sulfalene		14376-16-0			
Sulfatoxic Acid		127-79-7			
Sulfamerazine		651-06-9			
Sulfamer		57-68-1			
Sulfamethazine					

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API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
Sulfamethizole	Benzoic acid, 2-hydroxy-5-[[4-[(2-pyridinylamino)sulfonyl]phenyl]azo]- [CAS]	144-82-1		Formulation, oral, enteric-coated	Arthritis, rheumatoid
Sulfamethomidine		3772-76-7			
Sulfamethoxazole		723-46-6			
Sulfamethoxypyridazine		80-35-3			
Sulfametrole		32909-92-5			
Sulfamidochrysoidine		103-12-8			
Sulfamoxole		729-99-7			
Sulfanilamide		63-74-1			
Sulfanilic Acid		121-57-3			
Sulfanilylurea		547-44-4			
Sulfaperine		599-88-2			
Sulfaphenazole		526-08-9			
Sulfaproxyline		116-42-7			
Sulfapyrazine		116-44-9			
Sulfapyridine		144-83-2			
Sulfarside		1134-98-1			
Sulfarsphenamine		618-82-6			
sulfasalazine		599-79-1			
Sulfasomizole		632-00-8			
Sulfasymazine		1984-94-7			
Sulfathiazole		72-14-0			
Sulfathiourea		515-49-1			
Sulfinalol		66264-77-5			
Sulfipyrazone		57-96-5			
Sulfiram		95-05-6			
Sulfisomidine		515-64-0			
Sulfisoxazole		127-69-5			
Sulfobromophthalein		71-67-0			
Sulfonethylnmethane		76-20-0			

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API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
Sulfonlazide	cis-5-fluoro-2-methyl-1-[(p-methylsulfinyl)benzylidene]indene-3-acetic acid	3691-81-4	US 3725548	Anti-inflammatory	Inflammation, general
Sulfonmethane		115-24-2			
Sulfordiazine		14759-08-9			
Sulfoxone		144-75-2			
sulindac		38194-50-2			
Sulisatin		54935-03-4		Alimentary/Metabolic, other	Abortion
Sulisobenzone		4065-45-6			
Sulmarin		29334-07-4			
Sulmazole		73384-60-8			
Suloctidil		54063-56-8			
Sulphan Blue	Benzamide, 5-(aminosulfonyl)-N-[(1-ethyl-2-pyrrolidinyl)methyl]-2-methoxy-[CAS]	129-17-9	US 4024179	Prostaglandin	
sulpiride		15676-16-1			
sulprostone		60325-46-4			
sulfamizilin	Benzamide, N-[(1-ethyl-2-pyrrolidinyl)methyl]-5-(ethylsulfonyl)-2-methoxy-[CAS]	117060-71-6	GB 2044255	Penicillin, oral	Infection, general
Sulthiame		76497-13-7			
sultopride		61-56-3			
		53583-79-2			
		57775-26-5			
Sulfosilic Acid			FR. M5916	Neuroleptic	Psychosis, general

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API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
sumatriptan	4H-imidazo[4,5,1-f]quinolin-2(1H)-one, 5,6-dihydro-5-(methylamino)-, (5R)-, (2Z)-2-butanedioate (1:1) [CAS]	179386-44-8	WO 9514020	Antiparkinsonian	Parkinson's disease
sumatriptan	1H-Indole-5-methanesulfonamide, 3-[2-(dimethylamino)ethyl]-N-methyl-, butanedioate (1:1)- [CAS]	103628-46-2 103628-48-4	EP 147107	Antimigraine	Migraine
SUN-N8075	1-(4-amino-2,3,5-trimethylphenoxy)-3-(4-{4-(4-fluorobenzyl)phenyl}piperazin-1-yl)propan-2(s)-ol dimethanesulfonate			Neuroprotective	Infarction, cerebral
suplatast	Sulfonium, [3-[[4-(3-ethoxy-2-hydroxypropoxy)phenyl]amino]-3-oxopropyl]dimethyl-, [CAS]	94055-76-2 40828-46-4 129-46-4	JP 59167564	Antiasthma	Asthma
Surfactant TA	Beractant [CAS]	108778-82-1	WO 9117766	Lung Surfactant	Respiratory distress syndrome, general
Surfclone	L-Glutamic acid, 4-methyl-, (4R)- [CAS]	53813-83-5			
Suxibuzone	4-(Aminophenyl)-1-methyl-6,7-(methylenedioxy)-N-butyl-1,2-dihydrophthalazine-2-carboxamide	27470-51-5	US 5830998	Antiepileptic Analgesic, other	Epilepsy, general Pain, general
SYM-1070		31137-74-3			
SYM-2081		87-90-1		Neuroprotective	Ischaemia, cerebral
SYM-2207					
Symclosene	1-cyclopropyl-6-fluoro-8-methoxy-7-[3-(4-methyl-1,2,3-triazol-1-yl)pyrimidin-1-yl]-4-oxo-1,4-dihydroquinoline 3-carboxylic acid			Quinolone antibacterial	Infection, peritoneum
Syn-1253	1-Azetidinesulfonic acid, 3-[[[2E]-[(1,4-dihydro-1,5-dihydroxy-4-oxo-2-pyridinyl)methoxy]imino]-2-thienylacetyl]amino]-2-methyl-4-oxo-, (2S,3S)- [CAS]				
Syn-2190		214963-75-4	WO 9847895	Antibacterial, other	Infection, general



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REF ID: A503, 727722

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API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
TA-2005	2-(1H)-Quinolone, 8-hydroxy-5-[1-hydroxy-2-[[2-(4-methoxyphenyl)-1-methyl-ethyl]amino]ethyl]-, monohydrochloride, [R-(R*, R*)]- [CAS]	137888-11-0	US 4579854	Antiasthma	Asthma
	2-(1H)-Quinolone, 8-hydroxy-5-[1-hydroxy-2-[[2-(4-methoxyphenyl)-1-methyl-ethyl]amino]ethyl]-, monohydrochloride, [R-(R*, R*)]- [CAS]		WO 189480	Formulation, inhalable, solution	Asthma
TA-993	1,5-Benzothiazepin-4(5H)-one, 3-(acetyloxy)-5-[2-(dimethylamino)ethyl]-2,3-dihydro-8-methyl-2-(4-methylphenyl)-, (2R,3R)-rel(-), (2Z)-2-butenedioate [CAS]	122024-98-0	JP 01045376	Antithrombotic	Peripheral vascular disease
	(R)-Alpha-[(E)-5-Amino-N,5-dimethyl-2-hexanamido]-N-methyl-N-[(R)-Alpha-(methylcarbamoyl)phenethyl]-2-naphthalenepropanamide	170851-70-4 193079-69-5		Releasing hormones	Growth hormone deficiency
tabimorelin					
tacalcitol	9,10-Secosterolesta-5,7,10(19)-triene-1,3,24-triol, (1Alpha,3S,5Z,7E,24R)- [CAS]	57333-96-7 93129-94-3	EP 129003	Antipsoriasis	Keratosis
tacedinaline	Benzamide, 4-(acetylamino)-N-(2-aminophenyl)- [CAS]	112522-64-2 1684-40-8 321-64-2	DE 3613571 EP 332147	Anticancer, other Cognition enhancer	Cancer, pancreatic Alzheimer's disease
tacrine	9-Acridinamine, 1,2,3,4-tetrahydro- [CAS]				
Tadalafil	Pyrazino(1',2':1,6)pyrido(3,4-b)indole 1,4-dione, 6-(1,3-benzodioxol-5-yl)-2,3,6,7,12,12a-hexahydro-2-methyl-, (6R-trans) [CAS]	104987-11-3			
	1,4-Pentanediamine, N4-[2,6-dimethoxy-4-methyl-5-[3-(trifluoromethyl)phenoxy]-8-quinolinyl]- [CAS]	171596-29-5 106635-80-7 106635-81-8 80065-55-0 179067-42-6	US 6143746 US 4617394 WO 9612727	Male sexual dysfunction Antimalarial Anticancer, other	Impotence Infection, malaria Cancer, general
Tafeluposide	(S)-N-[2-(1,6,7,8-Tetrahydro-2H-indeno-[5,4-b]furan-8-yl)]propionamide			Hypnotic/Sedative	Insomnia
TAK-375					

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API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
TAK-427	2-[6-[[3-[4-(Diphenylmethoxy)-piperidino]imidazo[1,2-b]pyridazin-2-yl-2-methylpropionic acid dihydrate			Antipruritic/inflam, allergic	Eczema, atopic
TAK-559	(E)-4-[4-(5-Methyl-2-phenyl-1,3-oxazol-4-yl)methoxy]benzoyloxymino)-4-phenylbutyric acid			Antidiabetic	Diabetes, general
Taka-Diastase	7H-1,3-Dioxolo[4,5-h][2,3]benzodiazepine, 7-acetyl-5-(4-aminophenyl)-8,9-dihydro-8-methyl-, (8R)-[CAS]	9001-19-8			
Talampanel		161832-65-1	US 5639751	Antiepileptic	Epilepsy, general
Talampicillin		47747-58-8			
Talaportin	N-[[[(2S,3S)-18-Carboxy-2-(2-carboxy-ethyl)-13-ethyl-2,3-dihydro-3,7,12,17-tetramethyl-8-vinyl porphyrin-20-yl)acetyl]-L-aspartic acid	220201-34-3		Radio/chemosensitizer	Cancer, lung, general
Talastine		16188-61-7			
Talbutal		115-44-6			
Talinolol		57460-41-0			
Talipexole	4H-Thiazolo[4,5-d]azepin-2-amine, 5,6,7,8-tetrahydro-6-(2-propenyl)- [CAS]	101626-70-4	DE 3503963	Antiparkinsonian	Schizophrenia
Talnetant	4-Quinolincarboxamide, 3-hydroxy-2-phenyl-N-[(1S)-1-phenylpropyl]- [CAS]	36085-73-1		GI inflammatory/bowel disorders	Irritable bowel syndrome
Talnidipate	3-Pyridinecarboxylic acid, 2-[[3-(trifluoromethyl)phenyl]amino]-, 1,3-dihydro-3-oxo-1-isobenzofuran-yl ester [CAS]	174636-32-9	WO 9532948		
Talnitrofurate	L-Prolinamide, N-[(hexahydro-1-methyl-2,6-dioxo-4-pyrimidinyl)carbonyl]-L-histidyl-, (S)- [CAS]	66898-62-2	BE 858864	Anti-inflammatory	Inflammation, ocular
Taltirelin	Ethanamine, 2-[4-(1,2-diphenyl-1-butenyl)phenoxy]-N,N-dimethyl-, (Z)-[CAS]	103300-74-9	JP 61033197	Neurological	Dyskinesia, general
Tamoxifen		10540-29-1	US 4536516	Anticancer, hormonal	

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tamsulosin	Benzenesulfonamide, 5-[2-[(2-ethoxyphenoxy)ethyl]amino]propyl]-2-methoxy-, (R)- [CAS]	106133-20-4 80223-99-0	EP 34432	Prostate disorders	Benign prostatic hyperplasia
tandospirone	4,7-Methano-1H-isoindole-1,3(2H)-dione, hexahydro-2-[4-{4-(2-pyrimidinyl)-1-piperazinyl}butyl]-, (3aAlpha,4S,7S,7aAlpha)-, 2-hydroxy-1,2,3-propanetricarboxylate (1:1) [CAS]	112457-95-1 87760-53-0	EP 82402	Anxiolytic	Anxiety, general
Tannoform		9010-29-1			
Taprostene		108945-35-3			
tarquidar	3-Quinolonecarboxamide, N-[2-[[[4-(2,4-dihydro-6,7-dimethoxy-2(1H)-isoquinolinyl)ethyl]phenyl]amino]carbonyl]-4,5-dimethoxyphenyl]- [CAS]	206873-63-4	WO 9817648	Radio/chemosensitizer	Cancer, lung, non-small cell
TAS-103	6-[[2-(Dimethyl-amino)ethyl]amino]-3-hydroxy-7H-indeno[2,1-c]quinolin-7-one dihydrochloride	174634-09-4	WO 9532187	Anticancer, other	Cancer, lung, non-small cell
Tasosartan		145733-36-4			
Taurocholic Acid		81-24-3			
Taurolidine		19388-87-5			
tezanolast	Acetic acid, oxo[[3-(1H-tetrazol-5-yl)phenyl]amino]-, butyl ester [CAS]	82989-25-1	US 4778816	Antiasthma	
tezarotene	3-Pyridinecarboxylic acid, 6-[(3,4-dihydro-4,4-dimethyl-2H-1-benzothiofuran-6-yl)ethyl]-, ethyl ester [CAS]	118292-40-3 89786-04-9	EP 284288	Antipsoriasis	Psoriasis
Tazobactam					
tazobactam + piperacillin			JP 58225091	Antibiotic, other	Infection, general
TBC-3711	N-Methyl-N-propargyl-10-aminomethyl-dibenzo(b,f)oxepin	374880-51-0		Cardiovascular	Heart failure
TCH-348	5-Hexenoic acid, 4-hydroxy-, polymer with 4-ethenyl-1H-imidazole [CAS]			Neuroprotective	Amphotrophic lateral sclerosis
tabipenem		82200-24-5		Beta-lactam antibiotic	Infection, streptococcal

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tecadenoson	Adenosine, N-[(3R)-tetrahydro-3-furanyl]- [CAS]	204512-90-3	WO 9808855	Antiarrhythmic	Tachycardia, supraventricular
tecastemizole	1H-Benzimidazol-2-amine, 1-[(4-fluorophenyl)methyl]-N-4-piperidinyl- [CAS]	75970-99-9	US 4219559	Antiallergic, non-asthma	Rhinitis, allergic, seasonal
Technetium <sup>99m</sup> Tc		121281-41-2			
Blcitate		125224-05-7;			
Technetium <sup>99m</sup> Tc		104348-91-6			
Merlatide		109581-73-9			
Technetium <sup>99m</sup> Tc		104716-22-5			
Sestamibi					
Technetium <sup>99m</sup> Tc					
Teboroxime		4267-5-4			
Tectothiazide		5560-78-1			
Teclozan					
tedisamil	Spiro[cyclopentane-1,9'-[3,7]diazabicyclo[3.3.1]nonane], 3',7'-bis(cyclopropylmethyl)- [CAS]	90961-53-8	EP 102833	Antiarrhythmic	Fibrillation, atrial
Teflurane		124-72-1			
tegafur	2,4-(1H,3H)-Pyrimidinedione, 5-fluoro-1-(tetrahydro-2-furanyl)- [CAS]	17902-23-7	GB 1168391	Anticancer, antimetabolite	Cancer, general
tegafur + uracil	2,4-(1H,3H)-Pyrimidinedione, 5-fluoro-1-(tetrahydro-2-furanyl)-, mixt. with 2,4-(1H,3H)-pyrimidinedione- [CAS]	74578-38-4	EP 224885	Anticancer, antimetabolite	Cancer, breast
tegaserod	Hydrazinecarboximidamide, 2-[(5-methoxy-1H-indol-3-yl)methylene]-N-pentyl-, (Z)-2-butanedioate [CAS]	189188-57-6 145158-71-0		GI inflammatory/bowel disorders	Intractable bowel syndrome
Telcoplanin		61036-64-4			
telbivudine	9-L-2'-deoxythymidine	3424-98-4		Antiviral, other	Infection, hepatitis-B virus
Telencepine		80880-90-6			

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telithromycin	3-De((2,6-dideoxy-3-C-methyl-3-O-methyl- Alpha-L-ribo-hexopyranosyl)oxy)-11,12- dideoxy-6-O-methyl-3-oxo-12,11- (oxy)carbonyl((4-(4-(3-pyridinyl)-1H- imidazol-1-yl)butyl)imino))- [CAS]	191114-48-4	EP 680967	Macrolide antibiotic	Infection, respiratory tract, general
telmestaine	3,4-Thiazolidinedicarboxylic acid, 3-ethyl ester, (R)- [CAS]	122946-43-4		COPD treatment	Bronchitis, chronic
telmisartan	(1,1'-Biphenyl)-2-carboxylic acid, 4'-((1,4- dimethyl-2'-propyl(2,6'-bi-1H- benzimidazol)-1'-yl)methyl))- [CAS]	144701-48-4	EP 502314 WO 9941261	Antihypertensive, renin system Anticancer, other	Hypertension, general Cancer, general
temazepam	7-chloro-1,3-dihydro-3-hydroxy-1-methyl-5- phenyl-2H-1,4-benzodiazepin-2-one	846-50-4	US 3197467	Hypnotic/Sedative	Insomnia
temiverine	Benzeneacetic acid, Alpha-cyclohexyl- Alpha-hydroxy-, 4-(diethylamino)-1,1- dimethyl-2-butyl ester, [CAS]	129927-33-9	GB 2222828	Urological	Pollakiuria
temocapril	1,4-Thiazepine-4(5H)-acetic acid, 6-[[1- (ethoxycarbonyl)-3- phenylpropyl]amino]tetrahydro-5-oxo-2-(2- thienyl)-, [2S-[2Alpha,6S(R')]]- [CAS]	102090-90-4 110221-44-8 111902-57-9	US 4495188	Antihypertensive, renin system	Hypertension, general
Temocillin		66148-78-5			
temoporfin	Phenol, 3,3',3''-(2,3-dihydro-21H,23H- porphine-5,10,15,20-tetrayl)tetrakis- [CAS]	122341-38-2	EP 337601	Radio/chemosensitizer	Cancer, head and neck
temozolomide	Imidazo[5,1-c]-1,2,3,5-tetrazine-8- carboxamide, 3,4-dihydro-3-methyl-4-oxo- [CAS]	85622-93-1	DE 3231255	Anticancer, alkylating	Cancer, brain, general
tenatoprazole	1H-Imidazo(4,5-b)pyridine, 5-methoxy-2- (((4-methoxy-3,5-dimethyl-2- pyridinyl)methyl)sulfinyl))- [CAS]	113712-98-4 191588-94-0 120210-48-2	US 4808596	Anticancer	Ulcer, gastric
Tenecteplase					
Tenidap					

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teniposide	Furo[3',4':6,7]naphtho[2,3-d]-1,3-dioxol-6(5aH)-one, 5,8,8a,9-tetrahydro-5-(4-hydroxy-3,5-dimethoxyphenyl)-9-[[4,6-O-(2-thienylmethylene)-6-D-glucopyranosyl]oxy], [5R-(5Alpha,5a,8a,8aAlpha,9a,9a(R*))]- [CAS]	29767-20-2	US 3524844	Anticancer, other	Cancer, lymphoma, non-Hodgkin's
tenofovir	Phosphonic acid, (((1R)-2-(6-amino-9H-purin-9-yl)-1-methylethoxy)methyl)- [CAS]	147127-20-6		Antiviral, anti-HIV	Infection, HIV/AIDS
tenofovir disoproxil	2,4,6,8-tetraoxa-5-phosphanonanediolic acid, 5-(2-(6-amino-9H-purin-9-yl)-1-methylethoxymethyl) bis(1-methylethylester, 5-oxide (R)-, (E)-2-butenedioate	202138-50-9		Antiviral, anti-HIV	Infection, HIV/AIDS
Tenonitroazole	2H-Thieno[2,3-e]-1,2-thiazine-3-carboxamide, 4-hydroxy-2-methyl-N-2-pyridinyl-, 1,1-dioxide [CAS]	3810-35-3			
tenoxicam		59804-37-4	GB 1519811	Antiarthritic, other	
Tenuazonic Acid	5,9,13,17-Nonadecatetraen-2-one, 3,7,9,11,13,15,17-octamethyl- [CAS]	610-88-8			
teprenone	6,10,14,18-tetramethyl- [CAS]	3795-63-2		Antitumor	
terazosin	Piperazine, 1-(4-amino-6,7-dimethoxy-2-quinazolinyl)-4-((tetrahydro-2-furanyl)carbonyl)- [CAS]	63074-08-8			
terbutaline	1-Naphthalenemethanamine, N-(6,6-dimethyl-2-hepten-4-ynyl)-N-methyl-, (E)- [CAS]	63590-64-7	US 4112097	Antihypertensive, adrenergic	Hypertension, general
terbutaline	1,3-Benzenediol, 5-[2-[(1,1-dimethylethyl)amino]-1-hydroxyethyl]- [CAS]	70024-40-7	EP 24587	Antifungal	Infection, dermatological
terconazole	Piperazine, 1-[4-[2-(2,4-dichlorophenyl)-2-(1H-1,2,4-triazol-1-ylmethyl)-1,3-dioxolan-4-yl]methoxy]phenyl]-4-(1-methylethyl)-, cis- [CAS]	78628-80-5		Formulation, mucosal, topical	Dysmenorrhoea
		91161-71-6			
		23031-25-6			
		67915-31-5	US 4358449	Antifungal	Vaginitis

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terfenadine	1-[piperidinebutanol, Alpha-(4-(1,1-dimethylethyl)phenyl)-4-(hydroxydiphenylmethyl)- [CAS]	50679-08-8	US 3878217	Antiallergic, non-asthma	Hyperprolactinaemia
terguride	Urea, N,N-diethyl-N'-(8Alpha)-6-methyletergolin-8-yl- [CAS]	37686-84-3	EP 159522	Antiprolactin	
Terlipressin	2-Propanol, 1-[(3,4-dihydro-2H-1-benzothiofopyran-8-yl)oxy]-3-[(1,1-dimethylethyl)amino]-, hydrochloride, (+)- [CAS]	14636-12-5	GB 1308191	Antihypertensive, adrenergic	
Terodiline		15793-40-5			
Terofenamate		29098-15-5			
Terpin		80-53-5			
tert-butanol		33580-30-2	DE 2748794	Formulation, transdermal, systemic	Pain, general
tert-Pentyl Alcohol	(2S)-2-ethoxy-3-[4-[2-{4-[(methanesulfonyl)oxy]phenyl]ethoxy]phenyl]propanoic acid	83688-84-0 34784-64-0			
tesaglitazar		75-85-4			
tesmilifene	Ethanamine, N,N-Diethyl-2-(4-(phenylmethyl)phenoxy)- [CAS]	92981-76-7	Antidiabetic	Antidiabetic	Diabetes, Type II
Testolactone	androst-4-en-3-one, 17-hydroxy-, (17S) - [CAS]	968-93-4	Radio/chemosensitizer	Radio/chemosensitizer	Cancer, breast
Testosterone		58-22-0 5949-44-0	Formulation, transdermal, systemic	Formulation, transdermal, systemic	Hormone replacement therapy
terabamate		60763-47-5	Anxiolytic	Anxiolytic	Addiction, alcohol
Tetrabarbital		76-23-3	DE 2748794	Formulation, transdermal, systemic	Formulation, transdermal, systemic
Tetrabenazine		58-46-8			
Tetracaine	136-47-0				
Tetrachloroethylene	127-18-4				
tetracine	Benzoic acid, 4-(butylamino)-, 2-(dimethylamino)ethyl ester [CAS]	94-24-6			
tetracycline	2-Naphthaceneboxamide, 4-(dimethylamino)-1,4,4a,5,5a,6,11,12a-octahydro-3,6,10,12,12a-pentahydroxy-6-methyl-1,11-dioxo-, [4S-(4Alpha,4aAlpha,5aAlpha,6S,12aAlpha)]- [CAS]	60-54-8			Infection, oral



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Tetrahydrozoline		84-22-0			
Tetrandrine		518-34-3			
Tetrantoin		52094-70-9			
Tetrazepam		10379-14-3			
Tetrofosmin		127502-06-1			
tetoxoprim	2,4-Pyrimidinediamine, 5-[[3,5-dimethoxy-4-(2-methoxyethoxy)phenyl]methyl]-[CAS]	53808-87-0 74515-38-1	US 3992379	Trimethoprim and analogues	Infection, general
Tevenor®	Cytidine, 2'-deoxy-2'-(fluoromethylene)-, (2E)- [CAS]	4302-85-8		Anticancer, antimetabolite	Cancer, colorectal
tazactabine		130306-02-4	US 5616702		
	2-Pyridinesulfonamide, N-(6-(2-hydroxyethoxy)-5-(2-methoxyphenoxy)-2-(2-(1H-tetrazol-5-yl)-4-pyridinyl)-4-pyrimidinyl)-5-(1-methylethyl)- [CAS]	180384-57-0		Cardio stimulant	Oedema, general
tazosentan	1H-Isindole-1,3(2H)-dione, 2-(2,6-dioxo-3-piperidinyl)- [CAS]	50-35-1		Dermatological	Infection, dermatological
thalidomide		86-12-4			
Thenaldine		91-79-2			
Thenyldiamine		83-67-0			
Theobromine		54504-70-0			
Theofibrate		58-55-9			
theophylline	1H-Purine-2,6-dione, 3,7-dihydro-1,3-dimethyl- [CAS]	5967-84-0		Formulation, modified-release, other	Asthma
Thiabendazole		148-79-8			
Thiacetazone		104-06-3			
	Carbamic acid, [4-(1-methylethyl)phenyl]-, (3aS,8aS)-3,3a,8,8a-tetrahydro-3a,8-dimethyl-2H-thieno[2,3-b]indol-5-yl ester [CAS]	145209-51-4			
thiacymserine		467-36-7			
Thialbarbital		59-43-8		Cognition enhancer	Alzheimer's disease
Thiamine		154-87-0			
Thiamine		67-16-3			
Thiamine		5581-52-2			
Thiamiprine					

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API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
Thiamphenicol		15318-45-3			
Thiamylal		77-27-0			
Thiazesim		5845-26-1			
Thiazinamium		58-34-4			
Thiazolinobutazone		54749-86-9			
Thiazolsulfone		473-30-3			
Thibenzazoline		6028-35-9			
Thiethylperazine		1420-55-9			
Thimerfonate		5964-24-9			
Thimerosal		54-64-8			
Thiobarbital		77-32-7			
Thiobutabarbital		2095-57-0			
Thiocarbamizine		91-71-4			
Thiocarbarsone		120-02-5			
Thiocolchicine		2730-71-4			
Thiocresol		26445-03-4			
Thioctic Acid		62-46-4			
Thioglycerol		96-27-5			
Thioguanine		154-42-7			
Thiomreg	L-Thiotyrosinyl-glycyl-glycine			Anticancer, immunological	Cancer, general
Thiopental		71-73-8			
Thiopropazate		84-06-0			
Thiopropazine		316-81-4			
Thiondazine		50-52-2			
Thiothixene		5591-45-7			
Thiovir	Thiophosphonoformic acid			Antiviral, anti-HIV	Infection, HIV/AIDS
Thiophenamil		82-99-5			
Thiram		137-26-8			
Thonzylamine		63-56-9			
Thozalinone		655-05-0			
Thromboplastin		9035-58-9			

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Thurfyl Nicotinate thymedacin		70-19-9	US 6245750	Anticancer, other	Cancer, colorectal
Thymol		89-83-8			
Thymopentin		69558-55-0			
Thymyl N-		578-20-1			
Isoamylcarbamate					
Thyropropic Acid		51-26-3			
Thyroxine		51-48-9			
Tiadenol		6964-20-1			
tiagabine	3-Piperidinecarboxylic acid, 1-[4,4-bis(3-methyl-2-thienyl)-3-butenyl]-, (R)- [CAS]	115103-54-3	WO 8700171	Antiepileptic	Epilepsy, general
Tiamenidine		31428-61-2			
tiapentine	Heptanoic acid, 7-[(3-chloro-6,11-dihydro-6-methylidibenzof[c,f][1,2]thiazepin-11-yl)amino]-, S,S-dioxide [CAS]	72797-41-2 66981-73-5	GB 1269551	Antidepressant	Depression, general
tiapride	Benzamide, N-[2-(diethylamino)ethyl]-2-methoxy-5-(methylsulfonyl)- [CAS]	51012-32-9	GB 1394563	Neuroleptic	
tiaprofenic acid	2-Thiopheneacetic acid, 5-benzoyl-Alpha-methyl- [CAS]	33005-95-7	GB 1331505	Antiarthritic, other	
Tiaramide		32527-55-2			
tiazofurin	4-Thiazolecarboxamide, 2,4-D-ribofuranosyl- [CAS]	60084-10-8	EP 54432	Anticancer, antimetabolite	Cancer, leukaemia, chronic myelogenous
Tibezonium	19-Norpregn-5(10)-en-20-yn-3-one, 17-hydroxy-7-methyl-, (7Alpha,17Alpha)- [CAS]	54663-47-7			
tibolone		5630-53-5	EP 389035	Menopausal disorders	
Ticarcillin		34787-01-4			
ticlopidine	Thieno[3,2-c]pyridine, 5-[(2-chlorophenyl)methyl]-4,5,6,7-tetrahydro- [CAS]	53885-35-1 55142-85-3	GB 1554424	Antithrombotic	
Ticrynafen	4-(3-hydroxy-3-phenyl-3-thien-2-yl-propyl)-4-methylmorpholinium	40180-04-9 6252-92-2 144-12-7		Antispasmodic	Hormone replacement therapy
tiemonium					

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tigecycline	2-Naphthacene-1-carboxamide, 4,7-bis[(dimethylamino)-9-[[[(1,1-dimethylethyl)amino]acetyl]amino]-1,4,4a,5,5a,6,11,12a-octahydro-3,10,12,12a-tetrahydroxy-1,11-dioxo-, (4S,4aS,5aR,12aS)- [CAS]	220620-09-7	EP 582829	Tetracycline	Infection, general
Tigemonam		102507-71-1			
Tigloidine		495-83-0			
Tilidine		20380-58-9			
Tillsolol		85136-71-6			
timacoxib	Benzenesulfonamide, 4-(4-cyclohexyl-2-methyl-5-oxazolyl)-2-fluoro- [CAS]	180200-68-4	WO 9619483	Alimentary/Metabolic, other	Polyp
timudronic acid	Phosphonic acid, [[(4-chlorophenyl)thio]methylene]bis- [CAS]	89987-06-4	EP 100718	Osteoporosis treatment	Paget's disease
Timentin		86482-18-0		Antibiotic, other	Infection, general
timepidium	Piperidinium, 3-(di-2-thienylmethylene)-5-methoxy-1,1-dimethyl-, [CAS]	35035-05-3	GB 1358446	Antispasmodic	
Timiperone		57648-21-2			
timolol	(-)-1-(1-butylamino)-3-[(4-morpholino-1,2,5-thiadiazol-3-yl)oxy]-2-propanolmaleate (1:1) salt	26839-75-8 26921-17-5	GB 1253709	Antihypertensive, adrenergic, antiglaucoma	
Timonacil		444-27-9			
Tin Ethyl Etio purpurin		113471-15-1			
tinazoline	1H-Indole, 3-[(4,5-dihydro-1H-imidazol-2-yl)thio]- [CAS]	62882-99-9	US 3376311	Vasodilator, peripheral	
Tindazole		19387-91-8			
Tinordine		24237-54-5			
Tiocarlide		910-86-1			
Tioclomarol		22619-35-8			
tiocanazole	1H-Imidazole, 1-[2-(2-chloro-3-thienyl)methoxy]-2-(2,4-dichlorophenyl)ethyl]-[CAS]	61675-64-7 65899-73-2	US 4082966	Antifungal	Infection, fungal, general
tiopronin	Glycine, N-(2-mercapto-1-oxopropyl)- [CAS]	1953-02-2	US 3246025	Urological	Homocystinuria

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tiotropium	3-Oxa-9-azoniatricyclo(3.3.1.0 <sup>2,4</sup> )nonane, 7-(hydroxydi-2-thienylacetyl)oxy-9,9-dimethyl-, [CAS]	136310-93-5	EP 418716	COPD treatment	Chronic obstructive pulmonary disease
<b>Tioxolone</b>		4991-65-5			
<b>Tipepidine</b>		5169-78-8			
tipifarnib	2-(1H)-Quinolone, 6-(amino(4-chlorophenyl)(1-methyl-1H-imidazol-5-yl)methyl)-4-(3-chlorophenyl)-1-methyl [CAS]	192185-68-5 192185-72-1	WO 9716443	Anticancer, other	Cancer, breast
tipranavir	N-[3-(1(R)-[4-Hydroxy-2-oxo-6(R)-(2-phenylethyl)-6-propyl-5,6-dihydro-2H-pyran-3-ylpropyl]phenyl]-5-(trifluoromethyl)pyridine-2-sulfonamide (2H-Quinolizinium, 3-(di-2-thienylmethylene)octahydro-5-methyl-, [CAS]	174484-41-4		Antiviral, anti-HIV	Infection, HIV/AIDS
tiqizium		71731-58-3	US 4205074	Antispasmodic	
tiropazamine	1,2,4-Benzotiazin-3-amine, 1,4-dioxide- [CAS]	20028-80-2 27314-97-2 5424-06-6	DE 2204574	Radio/chemosensitizer	Cancer, lung, non-small cell
<b>Tiratricol</b>		51-24-1			
tiirilazad	Pregna-1,4,9(11)-triene-3,20-dione, 21-[4-(2,6-di-1-pyrimidinyl-4-pyrimidinyl)-1-piperazinyl]-16-methyl-, (16Alpha)-, [CAS]	110101-65-0 110101-67-2 110101-66-1	WO 8701705	Neuroprotective	Haemorrhage, subarachnoid
tirofiban	L-Tyrosine, N-(butylsulfonyl)-O-[4-(4-piperidinyl)butyl]-, [CAS]	142373-60-2 144494-65-5	EP 478363	Antithrombotic	Infarction; myocardial
tiropramide	Benzenepropanamide, Alpha-(benzoylamino)-4-[2-(diethylamino)ethoxy]-N,N-dipropyl-, (+)-, [CAS]	55837-29-1	DE 2503992	Antispasmodic	Muscle spasm, general
<b>Titanium Sulfate</b>		13825-74-6			
tirocortol	Pregn-4-ene-3,20-dione, 21-[(2,2-dimethyl-1-oxopropyl)thio]-11,17-dihydroxy-, (11S)- [CAS]	55560-96-8 61951-99-3	GB 1475795	Antiallergic, non-asthma, mucosal, topical	Rhinitis, allergic, general

Table IV

API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
tizanidine	2,1,3-Benzothiadiazol-4-amine, 5-chloro-N-(4,5-dihydro-1H-imidazol-2-yl)-[CAS]	51322-75-9	GB 1429926	Muscle relaxant	Spastic paralysis
TLK-199	Glycine, L-Gamma-glutamyl-S-(phenylmethyl)-L-cysteiny-2-phenyl-, diethyl ester, (2R)- [CAS]	168682-53-9	US 5679643	Immunostimulant, other	Myelodysplastic syndrome
TLK-286	Glycine, L-Gamma-glutamyl-3-[[2-((bis(2-chloroethyl)amino)phosphinyloxy)ethyl]sulfonyl]-L-alanyl-2-phenyl-, (2R)- [CAS]	158382-37-7	US 5545621	Anticancer, other	Cancer, ovarian
TNF- $\alpha$ analogue			RU 2035185	Anticancer, immunological	Cancer, general
TNP-470		129298-91-5			
TO-186	Pregna-1,4-diene-3,20-dione, 9-fluoro-11 $\beta$ ,17,21-trihydroxy-16 beta.-methyl-, 17-butyrate 21-propionate [CAS]	5534-02-1		Antipruritic/inflamm, allergic	
tobramycin	O-3-amino-3-deoxy-Alpha-D-glucopyranosyl-(1,6)-O-(2,6-diamino-2,3,6-trideoxy-Alpha-D-ribo-hexopyranosyl-(1-4)-2-deoxy- [CAS]	32886-56-4		Formulation, inhalable, topical	Infection, respiratory tract, general
tocainide	Propanamide, 2-amino-N-(2,6-dimethylphenyl)- [CAS]	41708-72-9	US 4218477	Antiarrhythmic	Fibrillation, ventricular
Tocamphyl		5634-42-4			
tocladesine	8-Chloroadenosine 3'5'-cyclic phosphate	41941-56-4		Anticancer, other	Cancer, colorectal
Tocoretinate		40516-48-1			
Todalazine		14679-73-3			
Tofenacin		15301-93-6			
tofilmist	5H-Pyrazolo[3,4-c]-1,2,4-triazolo[4,3-a]pyridine,9-cyclopentyl-7-ethyl-6,9-dihydro-3-(2-thienyl)-	185954-27-2		Antiasthma	Asthma
tofisopam	5H-2,3-Benzodiazepine, 1-(3,4-dimethoxyphenyl)-5-ethyl-7,8-dimethoxy-4-methyl-[CAS]	22345-47-7	GB 1334271	Anxiolytic	Anxiety, general
Tolazamide		1156-19-0			

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API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
Tolazoline		59-98-3			
Tolbutamide		64-77-7			
tolcapone	Methanone, (3,4-dihydroxy-5-nitrophenyl)(4-methylphenyl)- [CAS]	134308-13-7	EP 237929	Antiparkinsonian	Parkinson's disease
tolcidate	Carbamothioic acid, methyl(3-methylphenyl)-, O-(1,2,3,4-tetrahydro-1,4-methanonaphthalen-6-yl) ester [CAS]	50838-36-3	GB 1364407	Antifungal	Infection, dermatological
Tolcyciamide		664-95-9			
tollevamer	Benzenesulfonic acid, 4-ethenyl-, homopolymer,	28038-50-8			
tolifenamic acid	Benzoic acid, 2-[(3-chloro-2-methylphenyl)amino]- [CAS]	13710-18-5	DE 1543295	Antibacterial, other Anti-inflammatory	Infection, Clostridium, general Inflammation, general
Tolindate		27877-51-6			
Toliprolol		2933-94-0			
Tolmetin		26171-23-3			
Tolnaftate		2398-96-1			
Toloniidine		4201-22-3			
Tolonium		92-31-9			
toloxalone	2-Oxazolidinone, 5-(hydroxymethyl)-3-(3-methylphenyl)- [CAS]	29218-27-7	GB 1250538	Antidepressant	
Tolperisone		728-88-1			
Tolpropamine		5632-44-0			
Tolrestat		82964-04-3			
tolserine	Carbamic acid, (2-methylphenyl)-, (3aS,8aR)-1,2,3,3a,8,8a-hexahydro-1,3a,8-trimethylpyrrolo[2,3-b]indol-5-yl ester [CAS]	145209-30-9			
tolterodine	Piandl, 2-(3-bis(1-methylethylamino)-1-phenylpropyl)-4-methyl-, (R)- [CAS]	124937-51-5	EP 325571	Cognition enhancer Urological	Alzheimer's disease Incontinence
tolvaptan	Benzamide, N-[4-[(7-chloro-2,3,4,5-tetrahydro-5-hydroxy-1H-1-benzazepin-1-yl)carbonyl]-3-methylphenyl]-2-methyl- [CAS]	150683-30-0	EP 450097	Cardiovascular	Heart failure

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Tolycaine	Beta-D-Fructopyranose, 2,3,4,5-bis-O-(1-methylethylidene)-, sulfamate [CAS]	3686-58-6 97240-79-4	EP 533483 US 5733880	Antiepileptic Anticancer, other	Epilepsy, generalized, tonic-clonic Cancer, general
Topoisomerase Inhibitors	1H-Pyran[3',4':6,7]indolizino[1,2-b]quinoline-3,14(4H,12H)-dione, 9-[(dimethylamino)methyl]-4-ethyl-4,10-dihydroxy-, (S)- [CAS]				
topotecan	3-Pyridinesulfonamide, N-[(1-methyl-1-phenylamino)carbonyl]-4-[(3-methylphenyl)amino]- [CAS]	123948-87-8	EP 321122	Anticancer, other	Cancer, ovarian
torasemide	ethyl (2R,4S)-4-[(3,5-bis(trifluoromethyl)benzyl[(methoxycarbonyl)amino]-2-ethyl-6-(trifluoromethyl)-3,4-dihydroquinoline-1(2H)-carboxylate	56211-40-6	US 4018929	Antihypertensive, diuretic	Hypertension, general
torcetrapib	β-L-2'Deoxyctydine	262352-17-0		Hypolipaeic/Antiatherosclerosis	Atherosclerosis
torcetrapib				Antiviral, other	Infection, hepatitis-B virus
torcemifene	Ethanamine, 2-{4-(4-chloro-1,2-diphenyl-1-butanyl)phenoxy}-N,N-dimethyl-, (Z)-[CAS]	89778-26-7 89778-27-8	EP 95875	Anticancer, hormonal	Cancer, breast
Torsemide		56211-40-6			
Tositumomab		208921-02-2			
tosufloxacin	1,8-Naphthyridine-3-carboxylic acid, 7-(3-amino-1-pyrrolidinyl)-1-(2,4-difluorophenyl)-6-fluoro-1,4-dihydro-4-oxo-, [CAS]	100490-36-6 115984-29-9	US 4704459	Quinolone antibacterial	Infection, urinary tract
tramadol	Cyclohexanol, 2-[(dimethylamino)methyl]-1-(3-methoxyphenyl)-, cis-(+)-[CAS]	27203-92-5 36282-47-0 1082-57-1		Analgesic, other	Pain, general
Tramazoline	1H-Indole-2-carboxylic acid, 1-[2-[(1-carboxy-3-phenylpropyl)amino]-1-oxopropyl]octahydro-, [2S-11(R*(R*))2Alpha,3aAlpha,7aβ]- [CAS]	87679-71-8 87679-37-6 52-53-9	DE 3151690	Antihypertensive, renin system	Hypertension, general
trandolapril					



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API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
tranexamic acid	Cyclohexanecarboxylic acid, 4-(aminomethyl)-, trans- [CAS]	1197-18-8	US 3950405	Antifibrinolytic	Menstrual disorder, general
tranilast	Benzoic acid, 2-[(3-(3,4-dimethoxyphenyl)-1-oxo-2-propenyl)amino]- [CAS]	53902-12-8	US 3940422	Vulnery	Wound healing
trans-retinoic acid	Retinoic acid [CAS]	302-79-4		Anticancer, other	Cancer, general
Tranycypromine		155-09-9			
trapidil	[1,2,4]Triazolo[1,5-a]pyrimidin-7-amine, N,N-diethyl-5-methyl- [CAS]	15421-84-8	DD 55956	Vasodilator, coronary	
Trastuzumab		180288-69-1			
travoprost	5-Heptanoic acid, 7-(3,5-dihydroxy-2-(3-hydroxy-4-(3-(trifluoromethyl)phenoxy)-1-butenyl)cyclopentyl)-, 1-methylethylester (1R(1Alpha(Z),20(1E,3R*),3Alpha,5Alpha) [CAS]	157283-68-6		Formulation, mucosal, topical	Glaucoma
Traxanox	1-Piperidineethanol, 4-hydroxy-Alpha-(4-hydroxyphenyl)-6-methyl-4-phenyl-, (AlphaS,6S)- [CAS]	58712-69-9		Anaesthetic, other	Pain, general
traxoprodil	1,2,4-Triazolo[4,3-a]pyridin-3(2H)-one, 2-[3-[4-(3-chlorophenyl)-1-piperazinyl]propyl]- [CAS]	134234-12-1 188591-67-5			
trazodone		19794-93-5 25332-39-2	US 4215104	Antidepressant	
Tremacamra		155576-45-7			
Trenbolone		10161-33-8			
Trengestone		5192-84-7			
treosulfan	1,2,3,4-Butanetetrol, 1,4-dimethanesulfonate, [S-(R*,R*)]- [CAS]	299-75-2	WO 8401506	Anticancer, alkylating	
treprobutone	Benzenebutanoic acid, 2,4,5-triethoxy-Gamma-oxo- [CAS]	41826-92-0	GB 1387733	Antispasmodic	
treprostinol	Prosta-5,13-dien-1-oic acid, 6,9-epoxy-11,15-dihydroxy-, [5Z,9Alpha,11Alpha,13E,15S]- [CAS]	35121-78-9 61849-14-7	US 6054486	Formulation, parenteral, other	Hypertension, pulmonary
tretinoin	Retinoic acid [CAS]	302-79-4		Formulation, dermal, topical	Acne

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tretoquinol	6,7-isoquinolinediol, 1,2,3,4-tetrahydro-1- [(3,4,5-trimethoxyphenyl)methyl]-, (S)- [CAS]	18559-59-6 30418-38-3 21650-42-0	ZA 6802416	Antialsthma	Thrombosis, general
TRH	TRI 50b [CAS]	24305-27-9		Antithrombotic	
TRI-50b		226214-49-9			
Triacetin		102-76-1			
Triamcinolone		76-25-5			
Acetonide		31002-79-6			
Triamcinolone	Pregna-1,4-diene-3,20-dione, 9-fluoro-11,21-dihydroxy-16,17-[(1-methylethylidene)bis(oxy)]-, (11β, 16α) [CAS]	5611-51-8		Formulation, inhalable, topical	Asthma
Benetonide					
Triamcinolone					
Hexacetonide					
triamcinolone		76-25-5 124-94-7			
Triamterene	Triapine [CAS]	396-01-0	US 6458816	Anticancer, antimetabolite	Cancer, leukaemia, general
trapipe		236392-56-6			
Triaziquone		68-76-8			
triazolam		28911-01-5			
Tribenoside	8-chloro-6-(2-chlorophenyl)-1-methyl-4H- [1,2,4]-triazolo[4,3-e][1,4]benzodiazepine	10310-32-4	US 3980790	Hypnotic/Sedative	Insomnia
Trichlorfon		52-68-6			
Trichloromethiazide		133-67-5			
Trichlormethine		555-77-1			
Trichloroethylene		79-01-6			
Triclobisonium		79-90-3			
Triclocarban		101-20-2			
Triclofenol Piperazine		5714-82-9			
Triclofos		306-52-5			
Triclosan		3380-34-5			
Tricromyl		85-90-5			
Tridihexethyl iodide		125-99-5			

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trientine	1,2-Ethanediamine, N,N2-bis(2-aminoethyl)-, [CAS]	38260-01-4 112-24-3		Metabolic and enzyme disorders	Wilson's disease
Triethanolamine		102-71-6			
Triethylenemelamine		51-18-3			
Triethylenephosphoramide		545-55-1			
Triethylenethiophosphoramide		52-24-4			
Trifluoperazine		117-89-5			
Trifluoperidol		749-13-3			
Trifluopromazine		146-54-3			
trifluridine	Thymidine, Alpha,Alpha,Alpha-trifluoro- [CAS]	70-00-8	US 3201387	Antiviral, other	Infection, herpes virus, general
triflusal	Benzoic acid, 2-(acetoxy)-4-(trifluoromethyl)- [CAS]	322-79-2	US 4096252	Antithrombotic	Thrombosis, general
Trihexyphenidyl		52-49-3			
trilostane	Androst-2-ene-2-carbonitrile, 4,5-epoxy-3,17-dihydroxy-, (4Alpha,5Alpha,17beta)- [CAS]	13647-35-3	US 3296255	Anticancer, hormonal	Cancer, breast
Trimazosin		35795-16-5			
trimebutine	Benzoic acid, 3,4,5-trimethoxy-, 2-(dimethylamino)-2-phenylbutyl ester, (Z)-2-butenedioate (1:1) [CAS]	34140-59-5 39133-31-8	DE 2151716	Antispasmodic	
Trimecaine		616-68-2			
Trimeprazine		84-96-8			
Trimetazidine		5011-34-7			
Trimethadione		127-48-0			
Trimethaphan		68-91-7			
Trimethobenzamide		138-56-7			
Trimethoprim		738-70-5			
Trimetozine		635-41-6			
trimerexate	2,4-Quinazinediamine, 5-methyl-6-[[3,4,5-trimethoxyphenyl]amino]methyl]- [CAS]	52128-35-5 82952-64-5	US 4391809	Antifungal	Infection, Pneumocystis jiroveci

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trimepramine	5H-Dibenz[b,f]azepine-5-propanamine, 10,11-dihydro-N,N,8-trimethyl-, (Z)-2-butenedioate (1:1) [CAS]	521-78-8 739-71-9		Antidepressant	
Trimoprostil		69900-72-7			
Trioxsalen		3902-71-4			
tripamide	Benzamide, 3-(aminosulfonyl)-4-chloro-N-(octahydro-4,7-methano-2H-isoindol-2-yl)-, (3aAlpha,4Alpha,7aAlpha)- [CAS]	73803-48-2	JP 7305585	Antihypertensive, diuretic	Hypertension, general
Triparanol		78-41-1			
Tripeleennamine		91-81-6			
Triprolidine		486-12-4			
triproteralin	Luteinizing hormone-releasing factor (pig), 6-D-tryptophan- [CAS]	124508-68-3	US 4010125	Releasing hormones	Cancer, prostate
trifluorene	Morpholine, 4-[thioxo(3,4,5-trimethoxyphenyl)methyl]- [CAS]	57773-63-4	US 3862138	Antituberc	
Tritogualine	Phosphonic acid, [[4-(methylthio)phenyl]thio]methylene]bis-, disodium salt [CAS]	35619-65-9 14504-73-5	US 9410181	Antiarthritic, other	Arthritis, rheumatoid
TRK-530		151425-92-2			
	2-Propenamide, N-[(5Alpha,6S)-17-(cyclopropylmethyl)-4,5-epoxy-3,14-dihydroxymorphinan-6-yl]-3-(3-furanyl)-N-methyl-, monohydrochloride, (2E)- [CAS]	152658-17-8	WO 9315081	Antipruritic/inflam, non-allergic	Pruritus
TRK-820		2244-21-5			
Troclosene	3-2-(chloroethyl)-2-[bis(2-chloroethyl)amino]tetrahydro-2H-1,3,2-oxazaphosphorin 2-oxide	22089-22-1	GB 1188159	Anticancer, alkylating	
trofosamide		97322-87-7			
Trogilifazone		2751-9-9			
Troleandomycin		588-42-1			
Troloinitrate		53783-83-8	DE 1941218	Antiviral, other	Infection, herpes simplex virus
tromantadine	N-(1-adamantyl)-2-(2-dimethylamino ethoxy)acetamide	77-86-1			
Tromethamine					

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Tropacine	1H-Indole-3-acetic acid, 1-(4-chlorobenzoyl)-5-methoxy-2-methyl-, 2-carboxy-2-phenylethyl ester, (+/-) [CAS]	6878-98-4		Antiarthritic, other	
Tropesin		65189-78-8			
Tropicamide		1508-75-4			
tropine	1H-Indole-3-carboxylic acid, 8-methyl-8-azabicyclo[3.2.1]oct-3-yl ester, endo-[CAS]	65189-78-8	GB 2125398	Antiemetic	Chemotherapy-induced nausea and vomiting
tropisetron		89565-68-4			
Trospectomycin		88669-04-9			
tropium	3Alpha-Hydroxy-10-oxo-10H-phenanthrene-3-carboxylic acid, 7-(6-amino-3-azabicyclo[3.1.0]hex-3-yl)-1-(2,4-difluorophenyl)-6-fluoro-1,4-dihydro-4-oxo-, (1Alpha,5Alpha,6Alpha)-, [CAS]	10405-02-4	US 5164402	Urological	Pollakiuria
trovafoxacin	1,8-Naphthyridine-3-carboxylic acid, 7-(6-amino-3-azabicyclo[3.1.0]hex-3-yl)-1-(2,4-difluorophenyl)-6-fluoro-1,4-dihydro-4-oxo-, (1Alpha,5Alpha,6Alpha)-, [CAS]	147059-72-1			
	2-(1H)-Pyrimidinone, 4-amino-1-(2-(hydroxymethyl)-1,3-dioxolan-4-yl)-, (2S)-[CAS]	147059-75-4			
troxactabine	Benzamide, 3,4,5-trimethoxy-N-3-piperidinyl-, (+/-) [CAS]	145918-75-8	US 3647805	Anticancer, other	Infection, respiratory tract, general
Troxerutin		7085-55-4			
		30751-05-4 99772			
troxipide	Benzamide, 3,4,5-trimethoxy-N-3-piperidinyl-, (+/-) [CAS]	81-8		Antitumor	Cancer, leukaemia, acute myelogenous
Trypan Red		574-64-1			
Trypsinamide		554-72-3			
Tryptophan	6,14-Ethenomorphinan-7-methanol, 17-(cyclopropylmethyl)-Alpha-(1,1-dimethylethyl)-, 5-epoxy-18,19-dihydro-3-hydroxy-6-methoxy-Alpha-methyl-, [5Alpha,7Alpha,(S)]-, [CAS]	73-22-3	US 6180669	Formulation, transdermal, patch	Pain, cancer
TSH		9002-71-5			
TSN-09	Nonanedioic acid, bis[(2-(ethoxycarbonyl)phenyl] ester	52485-79-7	US 6180669	Antiacne	Acne
TU-2100					

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Tuaminoheptane	Benzanemethanol, 2-chloro-Alpha-[[[1,1-dimethylethyl]amino]methyl]- [CAS] N-(Propargyl-(3R)aminoindan-5-yl)-ethyl methyl carbamate	123-82-0	DE 2244737	Antiasthma	Asthma
Tubercidin		69-33-0			
Tubocurarine Chloride		57-94-3			
tiobutanol	Acetic acid, [2-{2,3,3a,6,7a-hexahydro-2-hydroxy-1-(3-hydroxy-4,4-dimethyl-1,6-nonadienyl)-1H-inden-5-yl}ethoxy]-, [1S-[1Alpha(R*),2S,3aAlpha,7aAlpha]]- [CAS]	41570-61-0	US 4837342	Antithrombotic	Unspecified
TV-3326					
TY-11223		140694-43-5			
TY-12533	D-Glucitol, 1,4:3,6-dianhydro-, dinitrate [CAS]		US 6258829	Antiarhythmic	Unspecified
TYB-3215		87-33-2			
Tybamate		4268-36-4			
tyloxapol	4-(1,1,3,3-Tetramethylbutyl)phenol polymer with formaldehyde and oxirane [CAS]	25301-02-4		Formulation, inhalable, topical	Cystic fibrosis
Tymazoline		24243-97-8			
Tyramine		51-67-2			
Tyropanoate	Benzoic acid, 2-[[3-(trifluoromethyl)phenyl]amino]-, butyl ester [CAS]	7246-21-1	BE 861852	Antipruritic/inflamm. non-allergic	
Ubenimex		58970-76-6			
ufenamate		67330-25-0			
Undecylenic Acid		112-38-9			
Unoprostone		120373-36-6			

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UR-3880	4-[4-Chloro-5-(3-fluoro-4-methoxyphenyl)imidazol-1-imidazol-1-yl]benzenesulfonamide- [CAS]	66-75-1		Anti-inflammatory	Inflammation, general
Uracil Mustard	1,2,3-Propanetricarboxylic acid, 2-hydroxy-, potassium sodium salt (5:6:6), hydrate [CAS]	55049-48-4	US 4400535	Urological	
Uralyt-U	2,4-(1H,3H)-Pyrimidinedione, 6-[3-[4-(2-methoxyphenyl)-1-piperazinyl]propylamino]-1,3-dimethyl- [CAS]	34661-75-1	GB 1309324	Antihypertensive, adrenergic	Hypertension, general
urapidil	Urea [CAS]	57-13-6		Antipsoriasis	
Uredopa		302-49-8			
Urethan		51-79-6			
Uridine 5'-Triphosphate		63-39-8			
Urinastatin		80449-31-6			
ursodeoxycholic acid	3Alpha,7[3-dihydroxy-5B-cholan-24-olc acid [CAS]	128-13-2		Formulation, other, Cirrhosis, primary biliary, hepatic dysfunction, biliary calculus	Cirrhosis, primary biliary
Ursodiol		128-13-2			
Ushercell		20231-81-6	US 6063773	Formulation, mucosal, topical	Contraceptive, female
Uzarin					
valaciclovir	L-Valine, 2-[(2-amino-1,6-dihydro-6-oxo-9H-purin-9-yl)methoxy]ethyl ester [CAS]	124832-26-4	EP 308065	Antiviral, other	Infection, herpes simplex virus
Valacyclovir		124832-26-4			
valdecoxib	Benzenesulfonamide, 4-[5-methyl-3-phenyl-4-isoxazolyl]- [CAS]	181695-72-7	US 5859257	Antiarthritic, other	Arthritis, rheumatoid
Valdetamide		512-48-1			
Valethamate	L-Valine, 2-[(2-amino-1,6-dihydro-6-oxo-9H-purin-9-yl)methoxy]-3-hydroxypropyl ester [CAS]	90-22-2			
valganciclovir		175865-59-5			
Valinocetamide		175865-60-8	EP 694547	Antiviral, other	Infection, cytomegalovirus
Valinocetamide		4171-13-5			

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valomaclovir	L-Valine (3R)-3-((2-amino-1,6-dihydro-6-oxo-9H-purin-9-yl)methyl)-4-((1-oxooctadecyl)oxy)butyl ester [CAS]	195156-77-5 76584-70-8	US 4988731	Antiviral, other	Infection, herpes simplex virus Epilepsy, generalized, tonic-clonic
valproate	Pentanoic acid, 2-propyl-, [CAS]	1069-66-5		Antiepileptic	
<b>Valproic Acid</b>		99-66-1			
<b>Valpromide</b>		2430-27-5			
valroacemide	Pentanamide, N-(2-amino-2-oxoethyl)-2-propyl-, [CAS]	92262-58-3	US 5585358	Antiepileptic	Epilepsy, general
valrubicin	Pentanoic acid, 2-(1,2,3,4,6,11-hexahydro-2,5,12-trihydroxy-7-methoxy-6,11-dioxo-4-((2,3,6-trideoxy-3-((trifluoroacetyl)amino)-Alpha-L-xylo-hexopyranosyl)oxy)-2-naphthacenyl)-2-oxoethyl ester (2S-cis)-[CAS]	56124-62-0	US 4035566	Anticancer, antibiotic	Cancer, bladder
valsartan	L-Valine, N-(1-oxopentyl)-N-[[2'-(1H-tetrazol-5-yl)][1,1'-biphenyl]-4-yl]methyl]-[CAS]	137862-53-4 121584-18-7	EP 443983	Antihypertensive, renin system	Hypertension, general
<b>Valspodar</b>					
wardenafil	Piperazine, 1-(3-(1,4-dihydro-5-methyl-(4-oxo-7-propylimidazo(5,1-f)(1,2,4)-triazin-2-yl)-4-ethoxyphenyl)sulfonyl)-4-ethyl-, [CAS]	224785-90-4		Male sexual dysfunction	Sexual dysfunction, male, general
varespladib	Acetic acid, ((3-(aminooxoacetyl)-2-ethyl-1-(phenylmethyl)-1H-indol-4-yl)oxy)-, [CAS]	172732-88-2 172733-42-5	EP 675110	Septic shock treatment	Sepsis
<i>Varicella Virus</i> <i>Vaccine</i>	3,5-Pyridinedicarboxylic acid, 1,4-dihydro-2,6-dimethyl-4-(3-nitrophenyl)-, 2-(4-(4-(diphenylmethyl)-1-piperazinyl)phenyl)ethyl methyl ester, [CAS]	116308-55-5 133743-71-2	EP 257616 US 6007817	Neuroprotective Radio/chemosensitizer	Hypertension, general Cancer, general
valandiipine VEA					



Table IV

API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
vecuronium	Piperidinium, 1- [(2S,3A,5A,16S,17S)-3,17-bis(acetyloxy)-2-(1-piperidinyl)androstan-16-yl]-1-methyl-, [CAS]	50700-72-6	US 4237126	Muscle relaxant	Anaesthesia, adjunct
<b>Velnacrine</b>		104675-29-8			
venlafaxine	Cyclohexanol, 1-[2-(dimethylamino)-1-(4-methoxyphenyl)ethyl]-, [CAS]	93413-69-5	GB 2227743	Antidepressant	Depression, general
<b>Verapipride</b>		99300-78-4			
		66644-81-3			
verapamil	Benzeneacetonitrile, Alpha-[3-[[2-(3,4-dimethoxyphenyl)ethyl]methylamino]propyl]-3,4-dimethoxy-Alpha-(1-methylethyl)-, [CAS]	52-53-9		Formulation, modified-release, other	Hypertension, general
verteporfin	23H,25H-Benzobiporphine-9,13-dipropionic acid, 18-ethenyl-4,4a-dihydro-3,4-bis(methoxycarbonyl)-4a,8,14,19-tetramethyl-, monomethyl ester, trans- [CAS]	129497-78-5	US 5238940	Ophthalmological	Macular degeneration
vesnarinone	Piperazine, 1-(3,4-dimethoxybenzoyl)-4-(1,2,3,4-tetrahydro-2-oxo-6-quinolinyl)-, [CAS]	81840-15-5	GB 2086896	Cardio stimulant	Heart failure
<b>Vetrabutine</b>		3735-45-3			
VF-233	Benzene carboximidamide, N,3,4,5-tetrahydroxy-, [CAS]	95933-74-7	US 4623659	Cardiovascular	Reperfusion injury
VI-0134	9H-Purin-6-amine, 9-β-D-arabinofuranosyl-, [CAS]	24356-66-9	US 6403597	Male sexual dysfunction	Premature ejaculation
vidarabine	5-Hexenoic acid, 4-amino-, [CAS]	5536-17-4	GB 1159290	Antiviral, other	Infection, herpes virus, general
vigabatrin	2-Benzofurancarboxamide, 5-{4-[(5-cyano-1H-indol-3-yl)butyl]-1-piperazinyl}-, [CAS]	68506-86-5	GB 1472525	Antiepileptic	Epilepsy, partial (focal, local)
vilazodone		86-9			
<b>Viloxazine</b>		163521-12-8	EP 648767	Antidepressant	Depression, general
Viminol		46817-91-8			
Vinbarbital		21363-18-8			
Vinblastine		125-44-0			
vinburnine	Ebumamenin-14(15H)-one, (3Alpha,16Alpha)- [CAS]	865-21-4			
		474-00-0			
		4880-88-0	DE 1932245	Cognition enhancer	

Table IV

API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
Vincamine	Vincalculoblastine, 22-oxo-, sulfate (1:1) (salt) [CAS]	1617-90-9 70704-03-9			
Vincristine	Vincalculoblastine, 22-oxo-, sulfate (1:1) (salt) [CAS]	2068-78-2 57-22-7	EP 207831	Formulation, parenteral, other	Cancer, general
Vindesine	Vincalculoblastine, 3-(aminocarbonyl)-O4-deacetyl-3-de(methoxycarbonyl)- [CAS]	53643-48-4 59917-39-4	GB 1463575	Anticancer, other	Cancer, leukaemia, acute lymphocytic
Vinflunine	Aspidospermidine-3-carboxylic acid, 4-(acetyloxy)-6,7-didehydro-15-[(2R,4R,6S,8S)-4-(1,1-difluoroethyl)-1,3,4,5,6,7,8,9-octahydro-8-(methoxycarbonyl)-2,6-methano-2H-azecino[4,3-b]indol-8-yl]-3-hydroxy-16-methoxy-1-methyl-, methyl ester, (2S,3S,4S,5Alpha,12S,19Alpha) - [CAS]	162652-95-1	FR 2707988	Anticancer, other	Cancer, general
Vincorelbine	C'-Norvincalculoblastine, 3',4'-didehydro-4'-deoxy- [CAS]	71486-22-1	EP 10458	Anticancer, other	Cancer, lung, non-small cell
Vinpocetine	Eburnamenine-14-carboxylic acid, ethyl ester, (3Alpha,16Alpha)- [CAS]	42971-09-5 109-93-3 2430-49-1 84-55-9	GB 1405127	Cognition enhancer	Cognitive disorder, general
Vinyl Ether		3306-52-3			
Vinylbital		477-32-7			
Viquidil		68-26-8 68-19-9			
Viridin		50-81-7			
Vitamin A	Vitamin B12 [CAS]	50-14-6		Formulation, transmucosal, nasal	Anaemia, general
Vitamin B12	L-Ascorbic acid [CAS]	67-97-0 83-70-5		Formulation, modified-release, <=24hr	Nutrition
Vitamin C					
Vitamin D2					
Vitamin D3					
Vitamin K6					
Vitamins, Prenatal					

Table IV

API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
VLA-4 antagonists	((R,S)-4-(4-(Amino-imino-methyl)-phenyl)-3-((4-biphenyl)-methyl)-4-methyl-2,5-dioximidazolidin-1-yl)-acetyl-L-N-methyl-aspartyl-L-phenylglycine		EP 842943	Antiasthma	Asthma
VNP-40101M	1,2-Bis((methylsulfonyl)-1-(2-chloroethyl)-2-(methylamino)carbonylhydrazine		US 6040338	Anticancer, alkylating	Cancer, general
voglibose	D-epi-Inositol, 3,4-dideoxy-4-[[2-hydroxy-1-(hydroxymethyl)ethyl]amino]-2-C-(hydroxymethyl)- [CAS]	83480-29-9	EP 56194	Antidiabetic	Diabetes, Type II
voriconazole	4-Pyrimidineethanol, Alpha-(2,4-difluorophenyl)-5-fluoro-6-methyl-Alpha-(1H-1,2,4-triazol-1-ylmethyl)-, (R-(R*,S*))-[CAS]	137234-62-9 129731-10-8	EP 440372	Antifungal	Infection, fungal, general
VUF-K-8788 Warfarin	7-[3-[4-(2-Quinolinylmethyl)-1-piperazinyl]propoxy]-3,4-dihydro-2H-1,4-benzothiazine-3-one	81-81-2		Antiasthma	Asthma
WF-10	Tetrachlorodecaoxide [CAS] 2-(3-[4-[3-(6-oxo-6H-2,10b-diazaceanthrenyl)-5-ylamino]propyl]-piperazin-1-yl)propyl)-5-nitro-2-azaphenylene-1,3-dione	92047-76-2		Radio/chemoprotective	Chemotherapy-induced injury, bone marrow, general
WMC-79 wound healing matrix			US 5897880	Anticancer, other	Cancer, colorectal
WP-170			US 6531121	Formulation, transdermal, patch Cytokine	Ulcer, diabetic Unspecified
xaliprodol	Pyridine, 1,2,3,6-tetrahydro-1-[2-(2-naphthalenyl)ethyl]-4-[3-(trifluoromethyl)phenyl]-, [CAS] 4-Morpholinecarboxamide, N-[2-[(2-hydroxy-3-(4-hydroxyphenoxy)propyl]amino)ethyl]-, (+/-)-73210-73-8 [CAS]	90494-79-4 135354-020-8	EP 101381	Neuroprotective	Amyotrophic lateral sclerosis
xamoterol		81801-12-9	GB 2002748	Cardio stimulant	Heart failure

Table IV

API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
<b>Xanomeline</b>		131986-45-3			
<b>Xanthinol Niacinate</b>		437-74-1			
<b>Xenilofiban</b>		149820-74-6			
<b>Xenbucin</b>		959-10-4			
<b>Xibenolol</b>		81584-06-7			
<b>xibomol</b>	Phenol, 4,5-dimethyl-2-(1,7,7-trimethylbicyclo[2.2.1]hept-2-yl)-, exo-[CAS]	13741-18-9	GB 1206774	Antibacterial, other	Infection, general
<b>ximelegatran</b>	Glycine, N-((R)-cyclohexyl-2-((2S)-2-(((4-(hydroxyamino)iminomethyl)phenyl)methyl)amino)carbonyl)-1-azetidinyl)-2-oxoethyl ethyl ester [CAS]	192939-46-1 56187-89-4		Antithrombotic	Thrombosis, venous
<b>Ximoprofen</b>					
<b>xipamide</b>	Benzamide, 5-(aminosulfonyl)-4-chloro-N-(2,6-dimethylphenyl)-2-hydroxy- [CAS]	14293-44-8	US 3567777	Antihypertensive, diuretic	
<b>xorphanol</b>	Morphinan-3-ol, 17-(cyclobutylmethyl)-8-methyl-6-methylene-, (8S)- [CAS]	77287-89-9		Analgesic, other	Pain, cancer
<b>XR-5118</b>	2,5-Piperazinedione, 3-[[5-[[2-(dimethylamino)ethyl]thio]-2-thienyl]methylene]-6-(phenylmethylene)-, monohydrochloride, (3Z,6Z)- [CAS]	174766-49-5	WO 9532190	Anticancer, other	Cancer, general
<b>XR-5944</b>	N,N'-(1,2-Ethanediy)bis(imino-2,1-ethanediy)bis(9-methylphenazine-1-carboxamide)		EP 934278	Anticancer, other	Cancer, general
<b>Xylometazoline</b>		526-36-3 58-86-6			
<b>Xylose</b>					
<b>YH-1885</b>	2-Pyrimidinamine, 4-(3,4-dihydro-1-methyl-2(1H)-isoquinolyl)-N-(4-fluorophenyl)-5,6-dimethyl-, monohydrochloride [CAS]	178307-42-1	WO 9605177	Antulcer	Ulcer, GI, general
<b>YM-511</b>	Benzonitrile, 4-[[[4-(bromophenyl)methyl]-4H-1,2,4-triazol-4-ylamino]- [CAS]	148869-05-0	WO 9305027	Anticancer, hormonal	Cancer, breast

Table IV

API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
YM-598	potassium(E)-N-[6-methoxy-5-(2-methoxyphenoxy)-2-(pyrimidin-2-yl)pyrimidin-4-yl]-2-phenylethanesulfonamidate	146-48-5 90596-75-1	US 5270304	Anticancer, other	Cancer, prostate
<b>Yohimbine</b> YT-146	Adenosine, 2-(1-octynyl)- [CAS] Thiazolidine, 3-(2,3-dihydro-1H-inden-2-yl)acetyl-4-(1-pyrrolidinylcarbonyl)-, (R)- [CAS]	130849-58-0	EP 372484	Anti-inflammatory Cognition enhancer	Inflammation, general Dementia, senile, general
Z-321	(1H-Indene-5-acetic acid, 2[[[4-chlorophenyl)sulfonyl]amino]methyl]-2,3-dihydro, monosodium salt) [CAS]	146731-14-8	JP 92506077	Antithrombotic	Peripheral vascular disease
Z-335	Carbamic acid, [3-[[2-methoxy-4-[[[(2-methylphenyl)sulfonyl]amino]carbonyl]phenyl]methyl]-1-methyl-1H-indol-5-yl]-cyclopentyl ester [CAS] Cytidine, 2',3'-dideoxy- [CAS]	107753-78-6 7481-89-2 109826-26-8	EP 199543 US 4879277	Antiasthma Antiviral, anti-HIV	Asthma Infection, HIV/AIDS
zafirlukast zacitabine <b>Zaldaride</b>	Acetamide, N-[3-(3-cyanopyrazolyl)-5- alpyrimidin-7-yl]phenyl]-N-ethyl- [CAS] Dibenzolb, fthiepin-2-acetic acid, 10,11- dihydro-Alpha-methyl-10-oxo- [CAS] 5-Acetamido-2,6-anhydro-3,4,5-trideoxy-4- guanidino-D-glycero-D-galacto-non-2- enonic acid [CAS] 1-Propanone, 3-(1-(phenylmethyl)-4- piperidinyl)-1-(2,3,4,5-tetrahydro-1H-1- benzazepin-8-yl)- [CAS]	151319-34-5 74711-43-6 139110-80-8	EP 776898 JP 55053282 WO 9116320	Hypnotic/Sedative Anti-inflammatory Antiviral, other	Insomnia Infection, influenza virus
zanamivir	Platinum, amminedichloro(2-methylpyridine)- (SP-4-3)- [CAS] N-acetylcolchicol-O-phosphate	142852-50-4 85175-67-3	EP 487071	Cognition enhancer	Alzheimer's disease
zanapezil <b>Zatebradine</b>	1H-Tetrazole-5-butanolic acid, Alpha-((4- (((1,4-dihydro-2,7-dimethyl-4-oxo-6- quinazolinyl)methyl)-2-propylamino)-2- fluorobenzoyl)amino) (S)- [CAS]	181630-15-9	EP 727430 WO 9528388	Anticancer, alkylating Urological Anticancer, other	Cancer, ovarian Overactive bladder Cancer, general
ZD-0473 ZD-0947 ... ZD-6126					
ZD-9331		153537-73-6	GB 2264946	Anticancer, antimetabolite	Cancer, pancreatic

Table IV

API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
zebularine	2(1H)-Pyrimidinone, 1-β-D-ribofuranosyl- [CAS] 7,8-Isoquinolinediol, 4-(3,4-dihydroxyphenyl)-1,2,3,4-tetrahydro- [CAS]	3690-10-6		Anticancer, other	Cancer, general
zelandopam		138086-00-7	JP 03190818	Vasodilator, renal	Hypertension, general
Zenarestat		112733-06-9			
Ziconotide		107452-89-1			
zidovudine	Thymidine, 3'-azido-3'-deoxy- [CAS] Urea, N-(1-benzothien-2-ylethyl)-N-hydroxy- [CAS]	30516-87-1	US 4724232	Antiviral, anti-HIV	Infection, HIV/AIDS
zileuton		111406-87-2	EP 279263	Antiasthma	Asthma
Zimeldine		56775-88-3			
zinc acetate	hexakis(m-acetato)-m4-oxotetrazinc	12129-82-7		Antiviral, other	Infection, herpes simplex virus prophylaxis
zinc acexamate	Hexanoic acid, 6-(acetylamino)-, zinc salt (2:1)- [CAS]	70020-71-2	EP 369088	Antiulcer	Ulcer, duodenal
zinc ibuprofenate		78416-80-5		Anti-inflammatory, topical	Inflammation, dermal
Zinc p-Phenolsulfonate		127-82-2			
Zinc Salicylate		16283-36-6			
Zinostatin		9014-2-2			
zinostatin stimalamer		123760-07-6	EP 136791	Anticancer, antibiotic	Cancer, liver
Zipeprol		34758-83-3			
ziprasidone	2H-Indol-2-one, 5-(2-(4-(1,2-benzisothiazol-3-yl)-1-piperazinyl)ethyl)-6-chloro-1,3-dihydro- [CAS] L-Proline, 1-[3-(benzoylthio)-2-methyl-1-oxopropyl]-4-(phenylthio)-, [1(R*),2Alpha,4Alpha]- [CAS]	122883-93-6 146939-27-7 75176-37-3 81872-10-8 81938-43-4	EP 281309	Neuroleptic	Schizophrenia
zofenopril	L-Proline, 1-[3-(benzoylthio)-2-methyl-1-oxopropyl]-4-(phenylthio)-, [1(R*),2Alpha,4Alpha]- + 6-Chloro-3,4-dihydro-2H-1,2,4-benzothiazide-7-sulfonamide 1,1-dioxide [CAS] Phosphonic acid, [1-hydroxy-2-(1H-imidazol-1-yl)ethylidene]bis- [CAS]		GB 2028327	Antihypertensive, renin system	Hypertension, general
zofenopril + HCTZ				Formulation, fixed-dose combinations	Hypertension, general
zoledronic acid		118072-93-8 165800-06-6	EP 531253	Osteoporosis treatment	Hypercalcaemia of malignancy

Table IV

API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
zolimidine	2-(p-methylsulfonylphenyl)imidazo[1,2-a]pyridine	1222-57-7	US 3318880	Anticancer	Gastritis
zolmitriptan	2-Oxazolidinone, 4-((3-(2-(dimethylamino)ethyl)-1H-indol-5-yl)methyl)-, (S)- [CAS]	139264-17-8	WO 9118897	Antimigraine	Migraine
zolpidem	Imidazo[1,2-a]pyridine-3-acetamide, N,N,6-trimethyl-2-(4-methylphenyl)-(R-(R*, R*))-, 2,3-dihydroxybutanedioate (2:1) [CAS]	99294-93-6 82626-48-0	EP 50563	Hypnotic/Sedative	Insomnia
<b>Zomepirac</b>		33369-31-2			
zonampanel	1-(2H)-Quinoxalineacetic acid, 3,4-dihydro-7-(1H-imidazol-1-yl)-6-nitro-2,3-dioxo- [CAS]	210245-80-0		Neuroprotective	Ischaemia, cerebral
zoniporide	1H-pyrazole-4-carboxamide, N-(aminomino methyl)-5-cyclopropyl-1-(5-quinolyl)-			Cardiovascular	Unspecified
zonisamide	1,2-Benzisoxazole-3-methanesulfonamide [CAS]	249296-45-5 68291-97-4 68291-98-5	GB 2025931	Antiepileptic	Epilepsy, generalized, tonic-clonic
zopiclone	1-Piperazinecarboxylic acid, 4-methyl-, 6-(5-chloro-2-pyridinyl)-6,7-dihydro-7-oxo-5H-pyrrolo[3,4-b]pyrazin-5-yl ester [CAS]	43200-80-2 110703-94-1 54083-22-6	GB 1358680	Hypnotic/Sedative	Insomnia
<b>Zopolrestat</b> <b>Zorubicin</b>					
zosuquidar	1-Piperazineethanol, 4-(1,1-difluoro-1,1a,6,10b-tetrahydroindenzof[a,e]cyclopropa[cyclohepten-6-yl)-Alpha-[(5-quinolinyloxy)methyl]-, [(R)-(1aAlpha,8Alpha,10bAlpha)]- [CAS]	167465-38-3		Radio/chemosensitizer	Cancer, leukaemia, acute myelogenous
zotapine	Ethanamine, 2-[(8-chloroindenzof[b,f]thiepin-10-yl)oxy]-N,N-dimethyl- [CAS]	26615-21-4	GB 1247067	Neuroleptic	Schizophrenia
ZP-123			WO 0162775	Antiarrhythmic	Arrhythmia, general
Z-tamoxifen	Ethanamine, 2-{4-(1,2-diphenyl-1-butenyl)phenoxy}-N,N-dimethyl-, (Z)- [CAS]	10540-29-1		Anticancer, hormonal	Cancer, colorectal

Table IV

API Generic Name	API Chemical Name	CAS No.	Patent Reference	Example of Therapeutic Use	Example of Indication
zuclopenthixol	1-Piperazineethanol, 4-[3-(2-chloro-9H-thioxanthen-9-ylidene)propyl], (Z)-(CAS)	53772-83-1 982-24-1 85721-05-7 64053-00-5	EP 270282	Neuroleptic	Psychosis, general



**CLAIMS:**

1. A pharmaceutical co-crystal composition, comprising: an API and a co-crystal former, wherein both the API and the co-crystal former are solids at room temperature and the API and co-crystal former are hydrogen bonded to each other.
2. The pharmaceutical co-crystal composition according to claim 1, wherein the co-crystal former is selected from a co-crystal former of Table I or Table II.
3. The pharmaceutical co-crystal composition according to claim 1, wherein the API is selected from an API of Table IV.
4. The pharmaceutical co-crystal composition according to claim 1, wherein the API is selected from an API of Table IV and the co-crystal former is selected from a co-crystal former of Table I or Table II.
5. A pharmaceutical co-crystal composition, comprising: an API, a co-crystal former, and a third molecule, wherein the API and the co-crystal former are solids at room temperature, and wherein the API and the third molecule are bonded to each other, and further wherein the co-crystal former and the third molecule are hydrogen bonded to each other.
6. A pharmaceutical co-crystal composition, comprising: an API and a co-crystal former, wherein the API is liquid and the co-crystal former is solid at room temperature, and wherein the API and the co-crystal former are hydrogen bonded to each other.
7. The pharmaceutical co-crystal composition according to claim 6, wherein the API is selected from an API of Table IV and the co-crystal former is selected from a co-crystal former of Table I or Table II.
8. A pharmaceutical co-crystal composition, comprising: two APIs, wherein one or both of the APIs are solids at room temperature, and wherein the two APIs are hydrogen bonded to each other.

9. The pharmaceutical co-crystal composition according to claim 8, wherein each API is selected from an API of Table IV.

10. A pharmaceutical co-crystal composition, comprising: two co-crystal formers, wherein both co-crystal formers are solids at room temperature, and wherein both co-crystal formers are hydrogen bonded to each other.

11. The pharmaceutical co-crystal composition according to claim 10, wherein each co-crystal former is selected from a co-crystal former of Table I or Table II.

12. The pharmaceutical co-crystal composition according to claim 1, wherein the API and the co-crystal former form an inclusion complex.

13. A pharmaceutical co-crystal composition, comprising: an API and a co-crystal former; wherein the API has at least one functional group selected from the group consisting of ether, thioether, alcohol, thiol, aldehyde, ketone, thioketone, nitrate ester, phosphate ester, thiophosphate ester, ester, thioester, sulfate ester, carboxylic acid, phosphonic acid, phosphinic acid, sulfonic acid, amide, primary amine, secondary amine, ammonia, tertiary amine, sp<sup>2</sup> amine, thiocyanate, cyanamide, oxime, nitrile diazo, organohalide, nitro, s-heterocyclic ring, thiophene, n-heterocyclic ring, pyrrole, o-heterocyclic ring, furan, epoxide, peroxide, hydroxamic acid, imidazole, and pyridine, and the co-crystal former has at least one functional group selected from ether, thioether, alcohol, thiol, aldehyde, ketone, thioketone, nitrate ester, phosphate ester, thiophosphate ester, ester, thioester, sulfate ester, carboxylic acid, phosphonic acid, phosphinic acid, sulfonic acid, amide, primary amine, secondary amine, ammonia, tertiary amine, sp<sup>2</sup> amine, thiocyanate, cyanamide, oxime, nitrile, diazo, organohalide, nitro, s-heterocyclic ring, thiophene, n-heterocyclic ring, pyrrole, o-heterocyclic ring, furan, epoxide, peroxide, hydroxamic acid, imidazole, and pyridine, such that the drug and co-crystal forming compound are capable of co-crystallizing from a solution phase under crystallization conditions and a hydrogen bond is formed between a hydrogen bond donor and a hydrogen bond acceptor.

14. The pharmaceutical composition according to claim 1, wherein (i) one of the API and co-crystal forming compound has at least one hydrogen bond donor group and (ii) the other has at least one hydrogen bond acceptor group.

15. The pharmaceutical composition according to claim 14, wherein the difference in pKa between the API and the co-crystal forming compound does not exceed 2.
16. The pharmaceutical composition according to claim 1, wherein the API is selected from celecoxib, carbamazepine, itraconazole, olanzapine, topiramate and modafinil.
17. The pharmaceutical composition according to claim 1, wherein the API is selected from 5-fluorouracil, hydrochlorothiazide, acetaminophen, aspirin, flurbiprofen, phenytoin, and ibuprofen.
18. The pharmaceutical composition according to claim 1, which further comprises a pharmaceutically acceptable diluent, excipient or carrier.
19. A co-crystal comprising carbamazepine and saccharin.
20. A co-crystal comprising carbamazepine and nicotinamide.
21. A co-crystal comprising carbamazepine and trimesic acid.
22. A co-crystal comprising celecoxib and nicotinamide.
23. A co-crystal comprising olanzapine and nicotinamide.
24. A co-crystal comprising celecoxib and 18-crown-6.
25. A co-crystal comprising itraconazole and succinic acid.
26. A co-crystal comprising itraconazole and fumaric acid.
27. A co-crystal comprising itraconazole and tartaric acid.
28. A co-crystal comprising itraconazole and malic acid.

29. A co-crystal comprising itraconazoleHCl and tartaric acid.
30. A co-crystal comprising modafinil and malonic acid.
31. A co-crystal comprising modafinil and benzamide.
32. A co-crystal comprising modafinil and mandelic acid.
33. A co-crystal comprising modafinil and glycolic acid.
34. A co-crystal comprising modafinil and fumaric acid.
35. A co-crystal comprising modafinil and maleic acid.
36. A co-crystal comprising topiramate and 18-crown-6.
37. A co-crystal comprising 5-fluorouracil and urea.
38. A co-crystal comprising hydrochlorothiazide and nicotinic acid.
39. A co-crystal comprising hydrochlorothiazide and 18-crown-6.
40. A co-crystal comprising hydrochlorothiazide and piperazine.
41. A co-crystal comprising acetaminophen and 4,4'-bipyridine.
42. A co-crystal comprising phenytoin and pyridone.
43. A co-crystal comprising aspirin and 4,4'-bipyridine.
44. A co-crystal comprising ibuprofen and 4,4'-bipyridine.
45. A co-crystal comprising flurbiprofen and 4,4'-bipyridine.

46. A co-crystal comprising flurbiprofen and trans-1,2-bis(4-pyridyl) ethylene.
47. A co-crystal comprising carbamazepine and p-phthalaldehyde.
48. A co-crystal comprising carbamazepine and 2,6-pyridinecarboxylic acid.
49. A co-crystal comprising carbamazepine and 5-nitroisophthalic acid.
50. A co-crystal comprising carbamazepine and 1,3,5,7-adamantane tetracarboxylic acid.
51. A co-crystal comprising carbamazepine and benzoquinone.
52. A process for the production of a pharmaceutical co-crystal composition, which process comprises:
  - (1) providing an API which has at least one functional group selected from the group consisting of: ether, thioether, alcohol, thiol, aldehyde, ketone, thioketone, nitrate ester, phosphate ester, thiophosphate ester, ester, thioester, sulfate ester, carboxylic acid, phosphonic acid, phosphinic acid, sulfonic acid, amide, primary amine, secondary amine, ammonia, tertiary amine, sp<sup>2</sup> amine, thiocyanate, cyanamide, oxime, nitrile, diazo, organohalide, nitro, s-heterocyclic ring, thiophene, n-heterocyclic ring, pyrrole, o-heterocyclic ring, furan, epoxide, peroxide, hydroxamic acid, imidazole, and pyridine;
  - (2) providing a co-crystal former which has at least one complementary functional group selected from the group consisting of: ether, thioether, alcohol, thiol, aldehyde, ketone, thioketone, nitrate ester, phosphate ester, thiophosphate ester, ester, thioester, sulfate ester, carboxylic acid, phosphonic acid, phosphinic acid, sulfonic acid, amide, primary amine, secondary amine, ammonia, tertiary amine, sp<sup>2</sup> amine, thiocyanate, cyanamide, oxime, nitrile, diazo, organohalide, nitro, s-heterocyclic ring, thiophene, n-heterocyclic ring, pyrrole, o-heterocyclic ring, furan, epoxide, peroxide, hydroxamic acid, imidazole, and pyridine;
  - (3) grinding, heating, or contacting in solution the API with the co-crystal former under crystallization conditions; so as to form a solid phase;
  - (4) isolating co-crystals formed thereby; and

(5) incorporating the co-crystals into a pharmaceutical composition; wherein the API is a liquid or solid at room temperature and the co-crystal former is a solid at room temperature, and wherein the API and co-crystal former are hydrogen bonded to each other.

53. The process according to claim 52, wherein:

- (a) the co-crystal former is selected from a co-crystal former of Table I or Table II;
- (b) the API is selected from an API of Table IV;
- (c) the API is selected from an API of Table IV and the co-crystal former is selected from a co-crystal former of Table I or Table II;
- (d) the API and the co-crystal former form an inclusion complex;
- (e) (i) one of the API and co-crystal forming compound has at least one hydrogen bond donor group; and  
(ii) the other has at least one hydrogen bond acceptor group;
- (f) the difference in pKa between the API and the co-crystal former does not exceed 2;
- (g) the API is selected from the group consisting of celecoxib, carbamazepine, itraconazole, olanzapine, topiramate, and modafinil;
- (h) the API is selected from the group consisting of 5-fluorouracil, hydrochlorothiazide, acetaminophen, aspirin, flurbiprofen, phenytoin, and ibuprofen; or
- (i) the pharmaceutical co-crystal composition further comprises a pharmaceutically acceptable diluent, excipient, or carrier.

54. The process for the production of a pharmaceutical co-crystal composition, which process comprises:

- (3) providing an API which has at least one functional group selected from the group consisting of ether, thioether, alcohol, thiol, aldehyde, ketone, thioketone, nitrate ester, phosphate ester, thiophosphate ester, ester, thioester, sulfate ester, carboxylic acid, phosphonic acid, phosphinic acid, sulfonic acid, amide, primary amine, secondary amine, ammonia, tertiary amine, sp<sup>2</sup> amine, thiocyanate, cyanamide, oxime, nitrile, diazo, organohalide, nitro, s-heterocyclic ring, thiophene, n-heterocyclic ring, pyrrole, o-heterocyclic ring, furan, epoxide, peroxide, hydroxamic acid, imidazole, and pyridine;

- (4) providing a co-crystal former which has at least one complementary functional group selected from the group consisting of ether, thioether, alcohol, thiol, aldehyde, ketone, thioketone, nitrate ester, phosphate ester, thiophosphate ester, ester, thioester, sulfate ester, carboxylic acid, phosphonic acid, phosphinic acid, sulfonic acid, amide, primary amine, secondary amine, ammonia, tertiary amine, sp<sup>2</sup> amine, thiocyanate, cyanamide, oxime, nitrile, diazo, organohalide, nitro, s-heterocyclic ring, thiophene, n-heterocyclic ring, pyrrole, o-heterocyclic ring, furan, epoxide, peroxide, hydroxamic acid, imidazole, and pyridine;
- (3) grinding, heating, or contacting in solution the API with the co-crystal former under crystallization conditions; so as to form a solid phase;
- (4) isolating co-crystals formed thereby; and
- (5) incorporating the co-crystals into a pharmaceutical composition; wherein the API is a liquid or solid at room temperature and the co-crystal former is a solid at room temperature, and wherein the API and a third molecule are bonded to each other, and further wherein the co-crystal former and the third molecule are hydrogen bonded to each other.

55. The process according to claim 52, wherein: the API is a liquid at room temperature.

56. The process according to claim 55, wherein the API is selected from an API of Table IV and the co-crystal former is selected from a co-crystal former of Table I or Table II.

57. A process for the production of a pharmaceutical co-crystal composition, which process comprises:

- (1) providing an API which has at least one functional group selected from the group consisting of ether, thioether, alcohol, thiol, aldehyde, ketone, thioketone, nitrate ester, phosphate ester, thiophosphate ester, ester, thioester, sulfate ester, carboxylic acid, phosphonic acid, phosphinic acid, sulfonic acid, amide, primary amine, secondary amine, ammonia, tertiary amine, sp<sup>2</sup> amine, thiocyanate, cyanamide, oxime, nitrile, diazo, organohalide, nitro, s-heterocyclic ring, thiophene, n-heterocyclic ring, pyrrole, o-heterocyclic ring, furan, epoxide, peroxide, hydroxamic acid, imidazole, and pyridine;
- (2) providing another API which has at least one complementary functional group selected from the group consisting of ether, thioether, alcohol, thiol, aldehyde, ketone,

thioketone, nitrate ester, phosphate ester, thiophosphate ester, ester, thioester, sulfate ester, carboxylic acid, phosphonic acid, phosphinic acid, sulfonic acid, amide, primary amine, secondary amine, ammonia, tertiary amine, sp<sup>2</sup> amine, thiocyanate, cyanamide, oxime, nitrile, diazo, organohalide, nitro, s-heterocyclic ring, thiophene, n-heterocyclic ring, pyrrole, o-heterocyclic ring, furan, epoxide, peroxide, hydroxamic acid, imidazole, and pyridine;

- (3) grinding, heating, or contacting in solution the APIs under crystallization conditions; so as to form a solid phase;
- (4) isolating co-crystals formed thereby; and
- (5) incorporating the co-crystals into a pharmaceutical composition; wherein one or both of the APIs are solids at room temperature, and wherein the two APIs are hydrogen bonded to each other.

58. The process according to claim 57, wherein each API is selected from an API of Table IV.

59. A process for the production of a pharmaceutical co-crystal composition, which process comprises:

- (1) providing a co-crystal former which has at least one functional group selected from the group consisting of ether, thioether, alcohol, thiol, aldehyde, ketone, thioketone, nitrate ester, phosphate ester, thiophosphate ester, ester, thioester, sulfate ester, carboxylic acid, phosphonic acid, phosphinic acid, sulfonic acid, amide, primary amine, secondary amine, ammonia, tertiary amine, sp<sup>2</sup> amine, thiocyanate, cyanamide, oxime, nitrile, diazo, organohalide, nitro, s-heterocyclic ring, thiophene, n-heterocyclic ring, pyrrole, o-heterocyclic ring, furan, epoxide, peroxide, hydroxamic acid, imidazole, and pyridine;
- (2) providing another co-crystal former which has at least one complementary functional group selected from the group consisting of ether, thioether, alcohol, thiol, aldehyde, ketone, thioketone, nitrate ester, phosphate ester, thiophosphate ester, ester, thioester, sulfate ester, carboxylic acid, phosphonic acid, phosphinic acid, sulfonic acid, amide, primary amine, secondary amine, ammonia, tertiary amine, sp<sup>2</sup> amine, thiocyanate, cyanamide, oxime, nitrile, diazo, organohalide, nitro, s-heterocyclic ring, thiophene, n-heterocyclic ring, pyrrole, o-heterocyclic ring, furan, epoxide, peroxide, hydroxamic acid, imidazole, and pyridine;



- (3) grinding, heating, or contacting in solution the co-crystal formers under crystallization conditions; so as to form a solid phase;
- (4) isolating co-crystals formed thereby; and
- (5) incorporating the co-crystals into a pharmaceutical composition; wherein both co-crystal formers are solids at room temperature, and wherein both co-crystal formers are hydrogen bonded to each other.

60. The process according to claim 59, wherein each co-crystal former is selected from a co-crystal former of Table I and Table II.

61. The process according to claim 52, wherein the co-crystal is selected from the group consisting of carbamazepine:saccharin, carbamazepine:nicotinamide, carbamazepine:trimesic acid, celecoxib:nicotinamide, olanzapine:nicotinamide, celecoxib:18-crown-6, itraconazole:succinic acid, itraconazole:fumaric acid, itraconazole:tartaric acid, itraconazole:malic acid, itraconazoleHCl:tartaric acid, modafinil:malonic acid, modafinil:benzamide, modafinil:mandelic acid, modafinil:glycolic acid, modafinil:fumaric acid, modafinil:maleic acid, topiramate:18-crown-6, 5-fluorouracil:urea, hydrochlorothiazide:nicotinic acid, hydrochlorothiazide:18-crown-6, hydrochlorothiazide:piperazine, acetaminophen:4,4'-bipyridine, phenytoin:pyridone, aspirin:4,4'-bipyridine, ibuprofen:4,4'-bipyridine, flurbiprofen:4,4'-bipyridine, flurbiprofen:trans-1,2-bis(4-pyridyl) ethylene, carbamazepine:p-phthalaldehyde, carbamazepine:2,6-pyridinecarboxylic acid, carbamazepine:5-nitroisophthalic acid, carbamazepine:1,3,5,7-adamantane tetracarboxylic acid, and carbamazepine:benzoquinone.

62. A process for the production of a pharmaceutical composition, which comprises:

- (1) contacting in solution an API with a co-crystal forming compound, under crystallization conditions, so as to form a solid phase;
- (2) isolating the solid phase;
- (3) testing the solid phase for the presence of co-crystals of the API and the co-crystal forming compound; and
- (4) incorporating the co-crystals when formed in step (3) into a pharmaceutical composition.

63. A process for the production of a pharmaceutical composition, which comprises:

- (1) providing (i) an API or a plurality of different APIs, and (ii) a co-crystal forming compound or a plurality of different co-crystal forming compounds, wherein at least one of the API and the co-crystal forming compound is provided as a plurality thereof;
- (2) screening for co-crystals of APIs with co-crystal forming compounds by subjecting each combination of API and co-crystal forming compound to a step comprising
  - (a) contacting in solution the API with the co-crystal forming compound under crystallization conditions so as to form a solid phase;
  - (b) isolating the solid phase; and
  - (c) testing the solid phase for the presence of co-crystals of the API and the co-crystal forming compound; and
- (3) incorporating the co-crystals when formed in step (c) into a pharmaceutical composition.

64. A process for modulating the solubility of an API for use in a pharmaceutical composition, which process comprises:

- (1) contacting in solution the API with a co-crystal forming compound under crystallization conditions, so as to form a co-crystal of the API and the co-crystal forming compound;
- (2) isolating the co-crystal;
- (3) testing the co-crystal for modulated solubility as compared to the API; and
- (4) incorporating the co-crystal having modulated solubility into a pharmaceutical composition.

65. A process for modulating the dose response of an API for use in a pharmaceutical composition, which process comprises:

- (1) contacting in solution the API with a co-crystal forming compound under crystallization conditions, so as to form a co-crystal of the API and the co-crystal forming compound;
  - (2) isolating the co-crystal;
  - (3) testing the co-crystal for modulated dose response as compared to the API;
- and
- (4) incorporating the co-crystal having modulated dose response into a pharmaceutical composition.

66. A process for modulating the dissolution of an API for use in a pharmaceutical composition, which process comprises:

- (1) contacting in solution the API with a co-crystal forming compound under crystallization conditions, so as to form a co-crystal of the API and the co-crystal forming compound;
- (2) isolating the co-crystal;
- (3) testing the co-crystal for modulated dissolution as compared to the API; and
- (4) incorporating the co-crystal having modulated dissolution into a pharmaceutical composition.

67. A process for modulating the bioavailability of an API for use in a pharmaceutical composition, which process comprises:

- (1) contacting in solution the API with a co-crystal forming compound under crystallization conditions, so as to form a co-crystal of the API and the co-crystal forming compound;
  - (2) isolating the co-crystal;
  - (3) testing the co-crystal for modulated bioavailability as compared to the API;
- and
- (4) incorporating the co-crystal having modulated bioavailability into a pharmaceutical composition.

68. A process for increasing the stability of an API for use in a pharmaceutical composition, which process comprises:

- (1) contacting in solution the API with a co-crystal forming compound under crystallization conditions, so as to form a co-crystal of the API and the co-crystal forming compound;
- (2) isolating the co-crystal, wherein the co-crystal has increased stability as compared to the API; and
- (3) incorporating the co-crystal having increased stability into a pharmaceutical composition.

69. A process for the incorporation of a difficult to salt or unsaltable API for use in a pharmaceutical composition, which process comprises:

- (1) contacting in solution the API with a co-crystal forming compound under crystallization conditions, so as to form a co-crystal of the API and the co-crystal forming compound;
- (2) isolating the co-crystal;
- (3) incorporating the co-crystal having a difficult to salt or unsaltable API into a pharmaceutical composition.

70. A process for decreasing the hygroscopicity of an API for use in a pharmaceutical composition, which process comprises:

- (1) contacting in solution the API with a co-crystal forming compound under crystallization conditions, so as to form a co-crystal of the API and the co-crystal forming compound;
- (2) isolating the co-crystal, wherein the co-crystal has decreased hygroscopicity as compared to the API; and
- (3) incorporating the co-crystal having decreased hygroscopicity into a pharmaceutical composition.

71. A process for crystallizing an amorphous API for use in a pharmaceutical composition, which process comprises:

- (1) contacting in solution the API with a co-crystal forming compound under crystallization conditions, so as to form a co-crystal of the API and the co-crystal forming compound;
- (2) isolating the co-crystal;
- (4) incorporating the co-crystal into a pharmaceutical composition.

72. A process for decreasing the form diversity of an API for use in a pharmaceutical composition, which process includes:

- (1) contacting in solution the API with a co-crystal forming compound under crystallization conditions, so as to form a co-crystal of the API and the co-crystal forming compound;
- (2) isolating the co-crystal wherein the co-crystal has decreased form diversity as compared to the API; and
- (3) incorporating the co-crystal having decreased form diversity into a pharmaceutical composition.

73. A process for modulating the morphology of an API for use in a pharmaceutical composition, which process includes:

- (1) contacting in solution the API with a co-crystal forming compound under crystallization conditions, so as to form a co-crystal of the API and the co-crystal forming compound;
- (2) isolating the co-crystal, wherein the co-crystal has a different morphology as compared to the API; and
- (3) incorporating the co-crystal having modulated morphology into a pharmaceutical composition.

74. The co-crystal of claim 1, specifically excluding co-crystals selected from the group consisting of: nabumetone:2,3-naphthalenediol, fluoxetine HCl:benzoic acid, fluoxetine HCl:succinic acid, acetaminophen:piperazine, acetaminophen:theophylline, theophylline:salicylic acid, theophylline:p-hydroxybenzoic acid, theophylline:sorbic acid, theophylline:1-hydroxy-2-naphthoic acid, theophylline:glycolic acid, theophylline:2,5-dihydroxybenzoic acid, theophylline:chloroacetic acid, bis(diphenylhydantoin):9-ethyladenine acetylacetone solvate, bis(diphenylhydantoin):9-ethyladenine 2,4-pentanedione solvate, 5,5-diphenylbarbituric acid:9-ethyladenine, bis(diphenylhydantoin):9-ethyladenine, 4-aminobenzoic acid:4-aminobenzonitrile, sulfadimidine:salicylic acid, 8-hydroxyquinolinium 4-nitrobenzoate:4-nitrobenzoic acid, sulfaproxyline:caffeine, retro-inverso-isopropyl (2R,3S)-4-cyclohexyl-2-hydroxy-3-(N-((2R)-2-morpholinocarbonylmethyl-3-(1-naphthyl)propionyl)-L-histidylamino)butyrate:cinnamic acid monohydrate, benzoic acid:isonicotinamide, 3-(2-N',N'-(dimethylhydrazino)-4-thiazolylmethylthio)-N''-sulfamoylpropionamide:maleic acid, diglycine hydrochloride ( $C_2H_5NO_2:C_2H_6NO_2^+Cl^-$ ), octadecanoic acid:3-pyridinecarboxamide, cis-N-(3-methyl-1-(2-(1,2,3,4-tetrahydro)naphthyl)-piperidin-4-yl)-N-phenylpropanamide hydrochloride:oxalic acid, trans-N-(3-methyl-1-(2-(1,2,3,4-tetrahydro)naphthyl)-piperidin-4-yl)-N-phenylpropanamide oxalate:oxalic acid dihydrate, bis(1-(3-((4-(2-isopropoxyphenyl)-1-piperazinyl)methyl)benzoyl)piperidine) succinate:succinic acid, bis(p-cyanophenyl)imidazolylmethane:succinic acid, cis-1-((4-(1-imidazolylmethyl)cyclohexyl)methyl)imidazole:succinic acid, (+)-2-(5,6-dimethoxy-1,2,3,4-tetrahydro-1-naphthyl)imidazoline:(+)-dibenzoyl-D-tartaric acid, raclopride:tartaric acid, 2,6-diamino-9-ethylpurine:5,5-diethylbarbituric acid, 5,5-diethylbarbituric acid:bis(2-

aminopyridine), 5,5-diethylbarbituric acid:acetamide, 5,5-diethylbarbituric acid:KI<sub>3</sub>, 5,5-diethylbarbituric acid:urea, bis(barbital):hexamethylphosphoramide, 5,5-diethylbarbituric acid:imidazole, barbital:1-methylimidazole, 5,5-diethylbarbituric acid:N-methyl-2-pyridone, 2,4-diamino-5-(3,4,5-trimethoxybenzyl)-pyrimidine:5,5-diethylbarbituric acid, bis(barbital):caffeine, bis(barbital):1-methylimidazole, bis(beta-cyclodextrin):bis(barbital) hydrate, tetrakis(beta-cyclodextrin):tetrakis(barbital), 9-ethyladenine:5,5-diethylbarbituric acid, barbital:N'-(p-cyanophenyl)-N-(p-iodophenyl)melamine, barbital:2-amino-4-(m-bromophenylamino)-6-chloro-1,3,5-triazine, 5,5-diethylbarbituric acid:N,N'-diphenylmelamine, 5,5-diethylbarbituric acid:N,N'-bis(p-chlorophenyl)melamine, N,N'-bis(p-bromophenyl)melamine:5,5-diethylbarbituric acid, 5,5-diethylbarbituric acid:N,N'-bis(p-iodophenyl)melamine, 5,5-diethylbarbituric acid:N,N'-bis(p-tolyl)melamine, 5,5-diethylbarbituric acid:N,N'-bis(m-tolyl)melamine, 5,5-diethylbarbituric acid:N,N'-bis(m-chlorophenyl)melamine, N,N'-Bis(m-methylphenyl)melamine:barbital, N,N'-bis(m-chlorophenyl)melamine:barbital tetrahydrofuran solvate, 5,5-diethylbarbituric acid:N,N'-bis(t-butyl)melamine, 5,5-diethylbarbituric acid:N,N'-di(t-butyl)melamine, 6,6'-diquinoyl ether:5,5-diethylbarbituric acid, 5-t-butyl-2,4,6-triaminopyrimidine:diethylbarbituric acid, N,N'-bis(4-carboxymethylphenyl)melamine:barbital ethanol solvate, N,N'-bis(4-t-butylphenyl)melamine:barbital, tris(5,17-N,N'-bis(4-amino-6-(butylamino)-1,3,5-triazin-2-yl)diamino-11,23-dinitro-25,26,27,28-tetrapropoxycalix(4)arene):hexakis(diethylbarbituric acid) toluene solvate, N,N'-bis(m-fluorophenyl)melamine:barbital, N,N'-bis(m-bromophenyl)melamine:barbital acetone solvate, N,N'-bis(m-iodophenyl)melamine:barbital acetonitrile solvate, N,N'-bis(m-trifluoromethylphenyl)melamine:barbital acetonitrile solvate, aminopyrine:barbital, N,N'-bis(4-fluorophenyl)melamine:barbital, N,N'-bis(4-trifluoromethylphenyl)melamine:barbital, 2,4-diamino-5-(3,4,5-trimethoxybenzyl)pyrimidine:barbital, hydroxybutyrate:hydroxyvalerate, 2-aminopyrimidine:succinic acid, 1,3-bis(((6-methylpyrid-2-yl)amino)carbonyl)benzene:glutaric acid, 5-t-butyl-2,4,6-triaminopyrimidine:diethylbarbituric acid, bis(dithiobiuret-S,S')nickel(II):diuracil, platinum 3,3'-dihydroxymethyl-2,2'-bipyridine dichloride:AgF<sub>3</sub>CSO<sub>3</sub>, 4,4'-bipyridyl:isophthalic acid, 4,4'-bipyridyl:1,4-naphthalenedicarboxylic acid, 4,4'-bipyridyl:1,3,5-cyclohexanetricarboxylic acid, 4,4'-bipyridyl:tricarballic acid, urotropin:azelaic acid, insulin:C8-HI (octanoyl-N<sup>e</sup>-LysB29-human insulin), isonicotinamide:cinnamic acid, isonicotinamide:3-hydroxybenzoic acid, isonicotinamide:3-N,N-dimethylaminobenzoic acid, isonicotinamide:3,5-bis(trifluoromethyl)-benzoic acid, isonicotinamide:d,l-mandelic acid,

isonicotinamide:chloroacetic acid, isonicotinamide:fumaric acid monoethyl ester,  
 isonicotinamide:12-bromododecanoic acid, isonicotinamide:fumaric acid,  
 isonicotinamide:succinic acid, isonicotinamide:4-ketopimelic acid,  
 isonicotinamide:thiodiglycolic acid, 1,3,5-cyclohexane-tricarboxylic  
 acid:hexamethyltetramine, 1,3,5-cyclohexane-tricarboxylic acid:4,7-phenanthroline, 4,7-  
 phenanthroline:oxalic acid, 4,7-phenanthroline:terephthalic acid, 4,7-phenanthroline: 1,3,5-  
 cyclohexane-tricarboxylic acid, 4,7-phenanthroline:1,4-naphthalenedicarboxylic acid,  
 pyrazine:methanoic acid, pyrazine:ethanoic acid, pyrazine:propanoic acid, pyrazine:butanoic  
 acid, pyrazine:pentanoic acid, pyrazine:hexanoic acid, pyrazine:heptanoic acid,  
 pyrazine:octanoic acid, pyrazine:nonanoic acid, pyrazine:decanoic acid, diammine-(deoxy-  
 quanyl-quanyl-N<sup>7</sup>,N<sup>7</sup>)-platinum:tris(glycine) hydrate, 2-aminopyrimidine:p-  
 phenylenediacetic acid, bis(2-aminopyrimidin-1-ium)fumarate:fumaric acid, 2-  
 aminopyrimidine:indole-3-acetic acid, 2-aminopyrimidine:N-methylpyrrole-2-carboxylic  
 acid, 2-aminopyrimidine:thiophen-2-carboxylic acid, 2-aminopyrimidine:(+)-camphoric acid,  
 2,4,6-Trinitrobenzoic acid: 2-aminopyrimidine, 2-aminopyrimidine:4-aminobenzoic acid, 2-  
 aminopyrimidine:bis(phenoxyacetic acid), 2-aminopyrimidine:(2,4-dichlorophenoxy)acetic  
 acid, 2-aminopyrimidine:(3,4-dichlorophenoxy)acetic acid, 2-aminopyrimidine:indole-2-  
 carboxylic acid, 2-aminopyrimidine:terephthalic acid, 2-aminopyrimidine:bis(2-nitrobenzoic  
 acid), 2-aminopyrimidine:bis(2-aminobenzoic acid), 2-aminopyrimidine:3-aminobenzoic  
 acid, 2-hexeneoic acid:isonicotinamide, 4-nitrobenzoic acid:isonicotinamide, 3,5-  
 dinitrobenzoic acid:isonicotinamide:4-methylbenzoic acid, 2-amino-5-nitropyrimidine:2-  
 amino-3-nitropyridine, 3,5-dinitrobenzoic acid:4-chlorobenzamide, 3-dimethylaminobenzoic  
 acid:4-chlorobenzamide, fumaric acid:4-chlorobenzamide, oxine:4-nitrobenzoic acid,  
 oxine:3,5-dinitrobenzoic acid, oxine:3,5-dinitrosalicylic acid, 3-[2-(N',N'-  
 dimethylhydrazino)-4-thiazolylmethylthio]-N<sup>2</sup>-sulfamoylpropionamide:maleic acid, 5-  
 fluorouracil:9-ethylhypoxanthine, 5-fluorouracil:cytosine dihydrate, 5-  
 fluorouracil:theophylline monohydrate, stearic acid:nicotinamide, cis-1-{{4-(1-  
 imidazolylmethyl)cyclohexyl}methyl}imidazole:succinic acid, CGS18320B:succinic acid,  
 sulfaproxyline:caffeine, 4-aminobenzoic acid:4-aminobenzonitrile, 3,5-dinitrobenzoic  
 acid:isonicotinamide:3-methylbenzoic acid, 3,5-dinitrobenzoic acid:isonicotinamide:4-  
 (dimethylamino)benzoic acid, 3,5-dinitrobenzoic acid:isonicotinamide:4-hydroxy-3-  
 methoxycinnamic acid, isonicotinamide:oxalic acid, isonicotinamide:malonic acid,  
 isonicotinamide:succinic acid, isonicotinamide:glutaric acid, isonicotinamide:adipic acid,  
 benzoic acid:isonicotinamide, mazapertine:succinate, betaine:dichloronitrophenol,

betainepyridine:dichloronitrophenol, betainepyridine:pentachlorophenol, 4-{2-[1-(2-hydroxyethyl)-4-pyridylidene]-ethylidene}-cyclo-hexa-2,5-dien-1-one:methyl 2,4-dihydroxybenzoate, 4-{2-[1-(2-hydroxyethyl)-4-pyridylidene]-ethylidene}-cyclo-hexa-2,5-dien-1-one:2,4-dihydroxypropiophenone, 4-{2-[1-(2-hydroxyethyl)-4-pyridylidene]-ethylidene}-cyclo-hexa-2,5-dien-1-one:2,4-dihydroxyacetophenone, squaric acid:4,4'-dipyridylacetylene, squaric acid:1,2-bis(4-pyridyl)ethylene, chloranilic acid:1,4-bis[(4-pyridyl)ethynyl]benzene, 4,4'-bipyridine:phthalic acid, 4,4'-dipyridylacetylene:phthalic acid, bis(pentamethylcyclopentadienyl)iron:bromanilic acid, bis(pentamethylcyclopentadienyl)iron:chloranilic acid, bis(pentamethylcyclopentadienyl)iron:cyananilic acid, pyrazinotetrathiafulvalene:chloranilic acid, phenol:pentafluorophenol, co-crystals of itraconazole, and co-crystals of topiramate.



### Abstract

A pharmaceutical composition comprising a co-crystal of an API and a co-crystal forming compound; wherein the API has at least one functional group selected from ether, thioether, alcohol, thiol, aldehyde, ketone, thioketone, nitrate ester, phosphate ester, thiophosphate ester, ester, thioester, sulfate ester, carboxylic acid, phosphonic acid, phosphinic acid, sulfonic acid, amide, primary amine, secondary amine, ammonia, tertiary amine, sp<sup>2</sup> amine, thiocyanate, cyanamide, oxime, nitrile diazo, organohalide, nitro, s-heterocyclic ring, thiophene, n-heterocyclic ring, pyrrole, o-heterocyclic ring, furan, epoxide, peroxide, hydroxamic acid, imidazole, pyridine and the co-crystal forming compound has at least one functional group selected from amine, amide, pyridine, imidazole, indole, pyrrolidine, carbonyl, carboxyl, hydroxyl, phenol, sulfone, sulfonyl, mercapto and methyl thio, such that the API and co-crystal forming compound are capable of co-crystallizing from a solution phase under crystallization conditions.

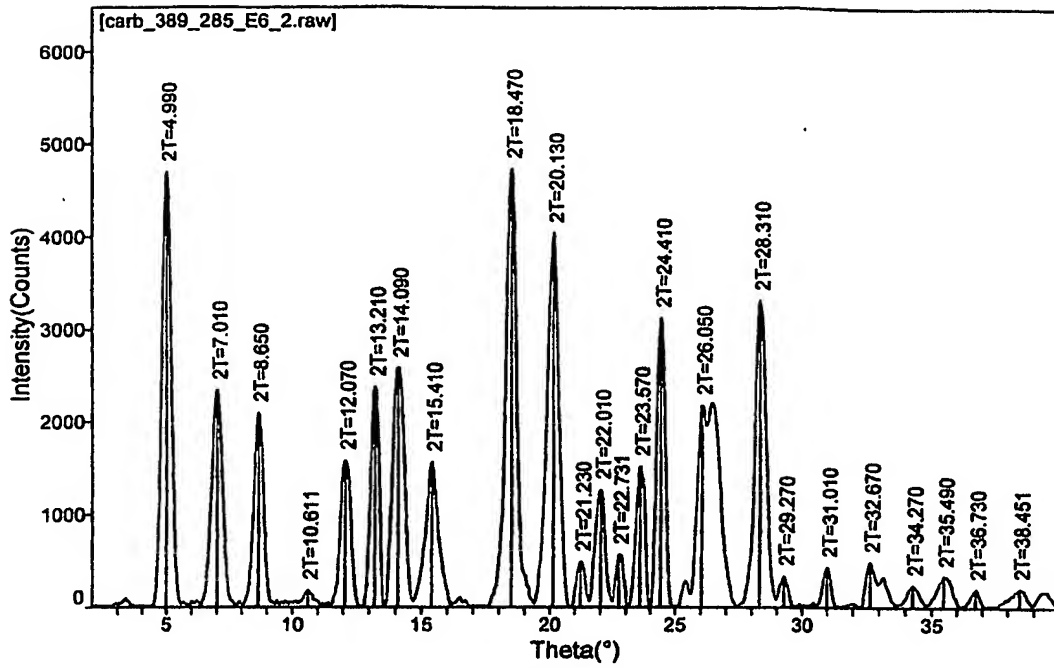


Figure 1

Sample: carb\_389\_285E6  
Size: 0.1440 mg  
Method: Ramp

DSC

File: Y:\carb\_389\_285E6.001  
Operator: MSH  
Run Date: 03-Dec-02 10:43  
Instrument: DSC Q1000 V6.19 Build 227

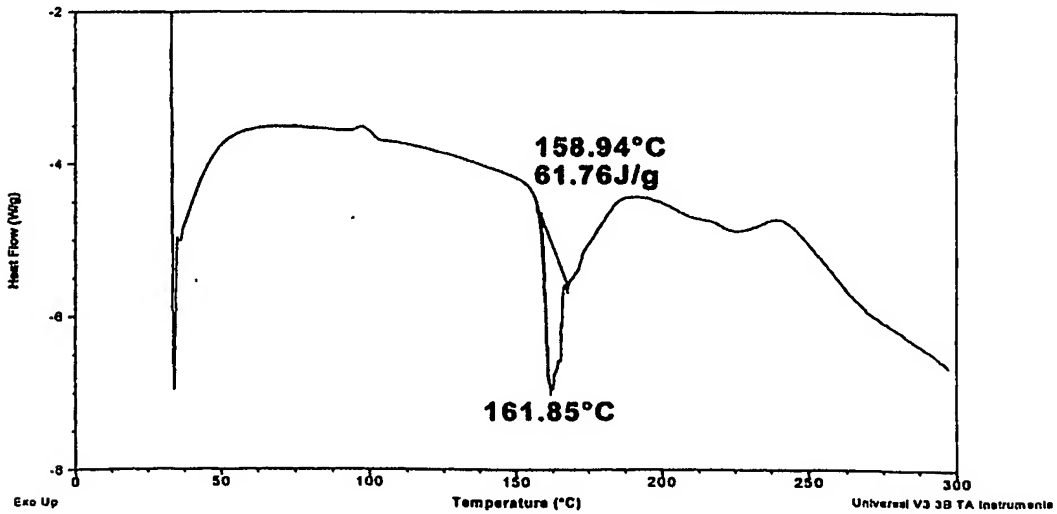
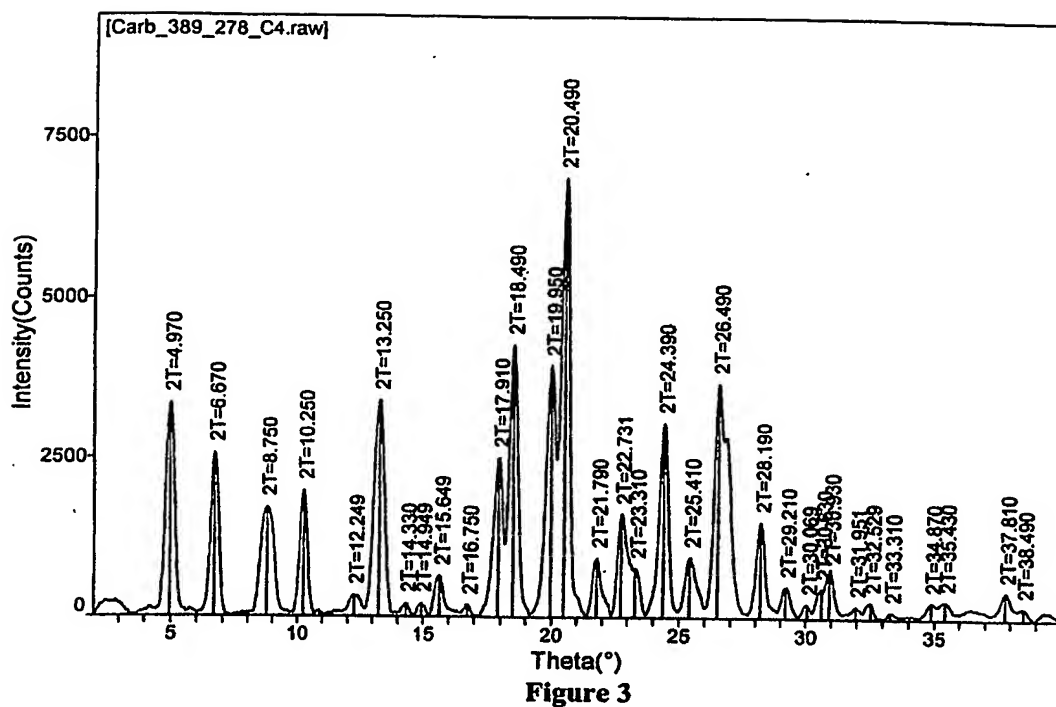


Figure 2



Sample: carb\_389\_278\_C4  
Size: 0.1340 mg  
Method: Ramp

DSC

File: Y:\Carb\_389\_278\carb\_389\_278\_C4.001  
Operator: MEH  
Run Date: 18-Nov-02 16:40  
Instrument: DSC Q1000 V6.19 Build 227

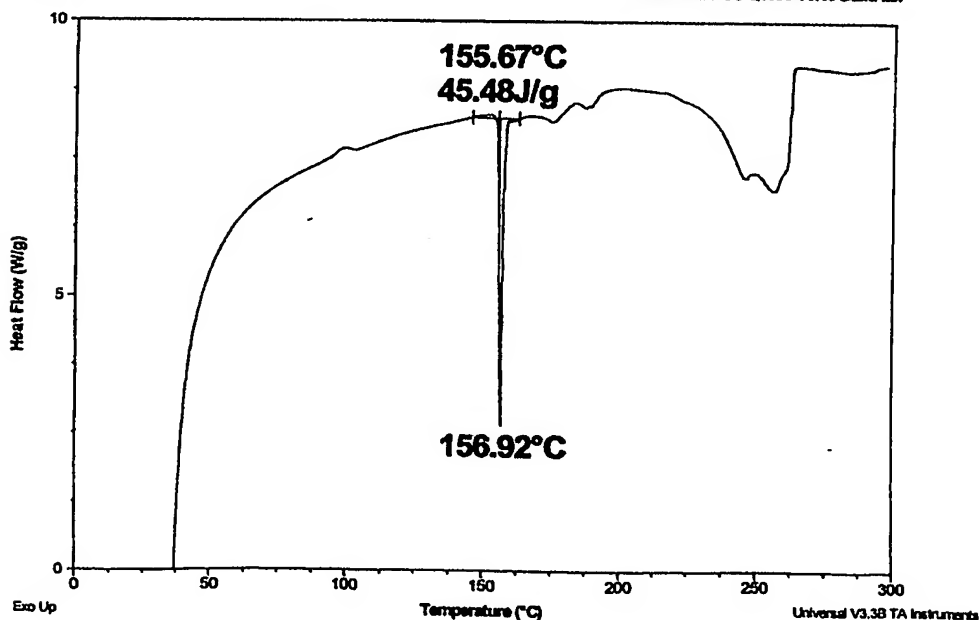


Figure 4

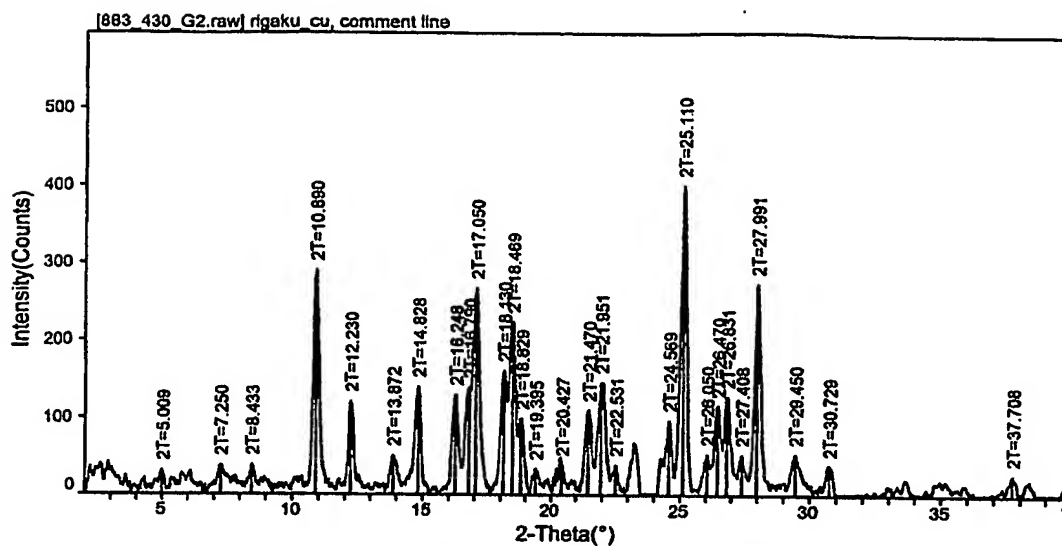


Figure 5

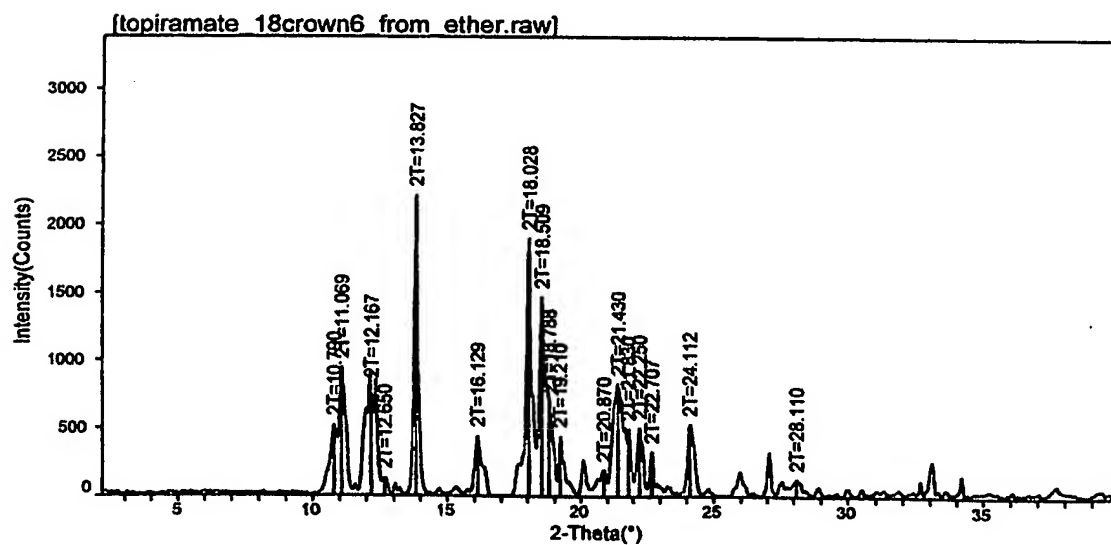


Figure 6

Sample: topramate\_18crown6  
Size: 0.8210 mg  
Method: Ramp

DSC

File: Y:\DSC\Magal\topramate\_18crown6.001  
Operator: MSH  
Run Date: 19-May-03 05:35  
Instrument: DSC Q1000 V8.19 Build 227

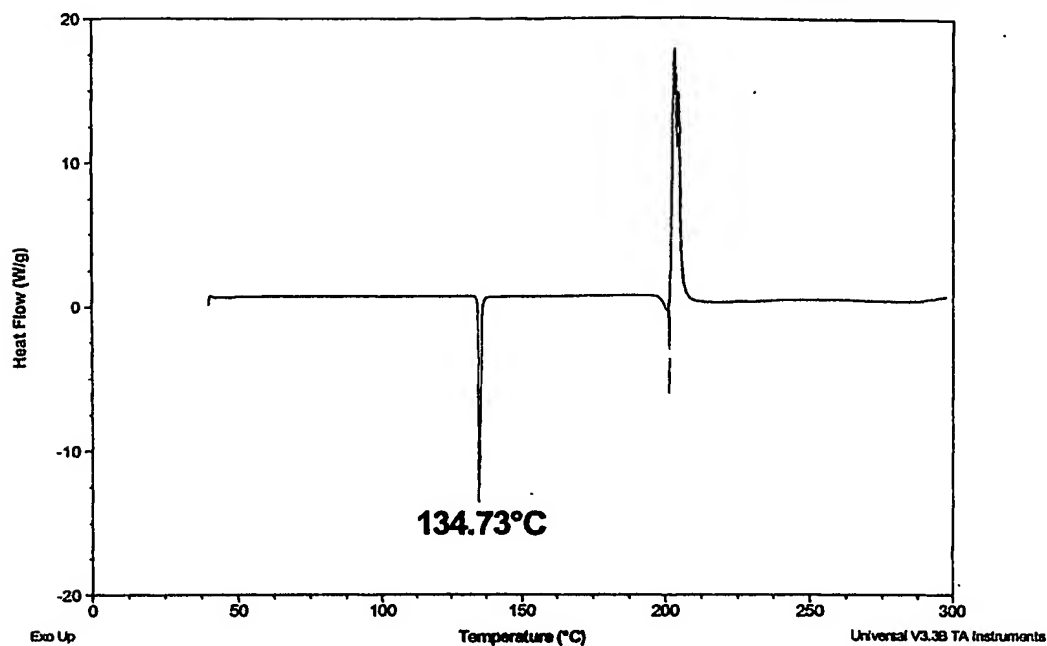


Figure 7

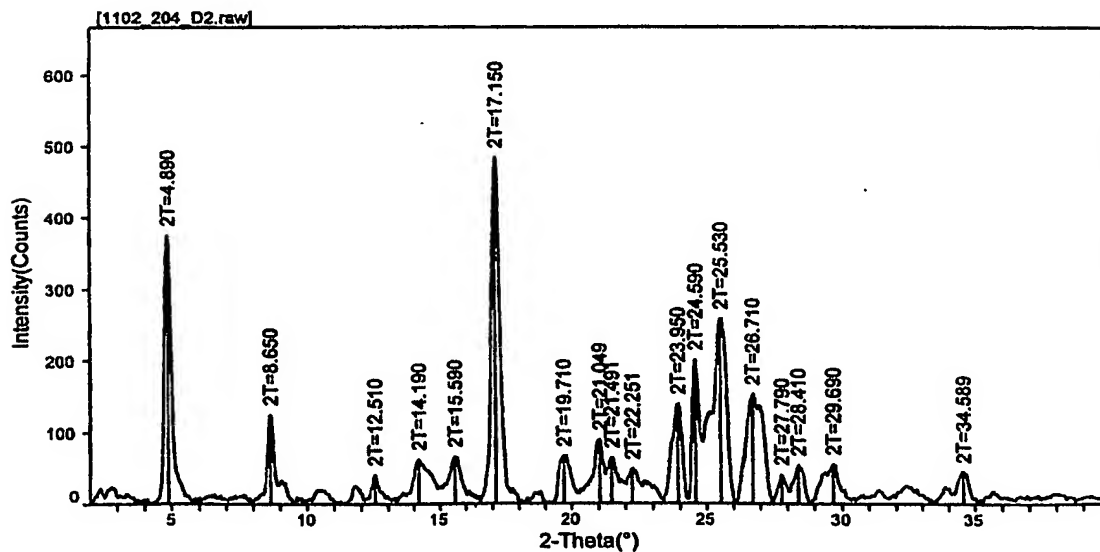


Figure 8

Sample: 1102\_204\_D2  
Size: 0.7500 mg  
Method: Ramp

DSC

File: Y:\Olenzapine\1102\1102\_204\_D2.002  
Operator: MBH  
Run Date: 14-May-03 08:58  
Instrument: DSC Q1000 V6.19 Build 227

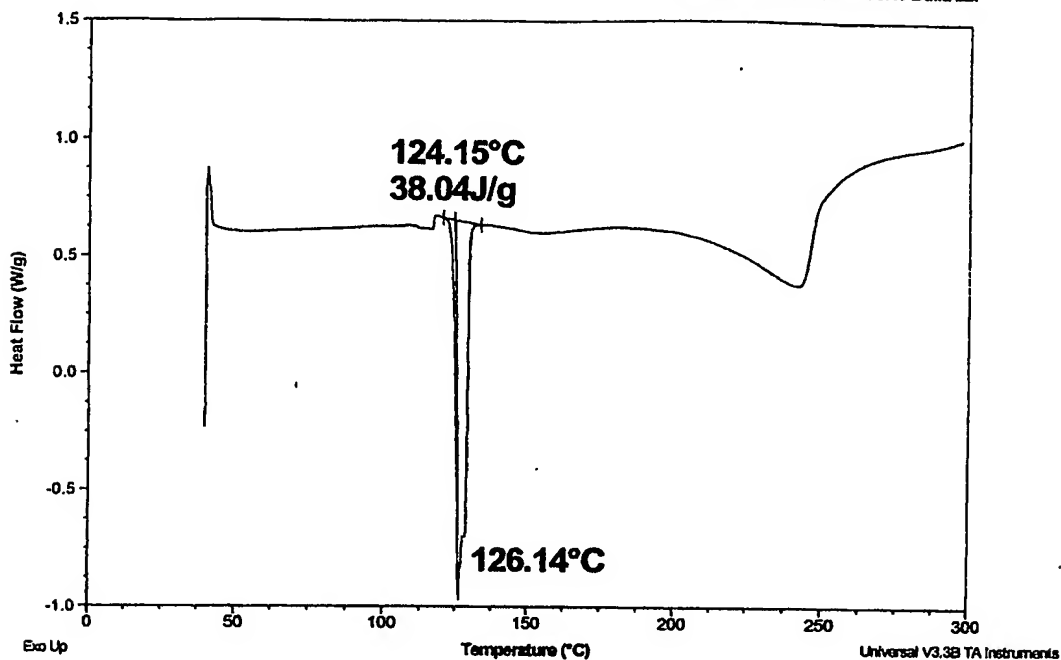


Figure 9

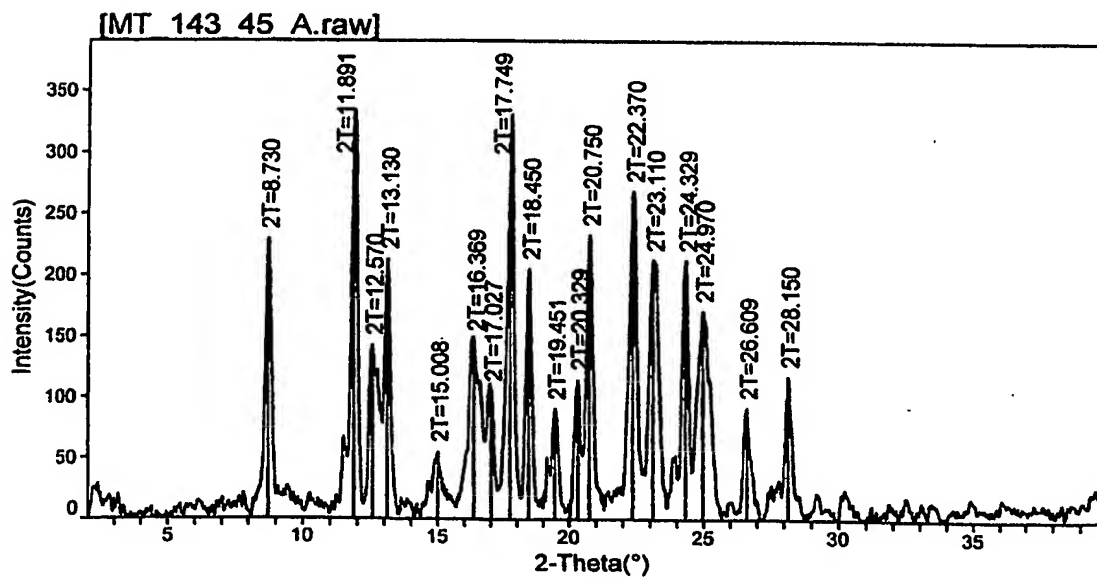


Figure 10

Sample: Celecoxib/18-crown-8  
Size: 0.9800 mg  
Method: Ramp

DSC

File: \\...MT\_143\_46\_A; Celecoxib 18-C-6.001  
Operator: MDT  
Run Date: 17-Mar-03 13:42  
Instrument: DSC Q1000 V6.19 Build 227

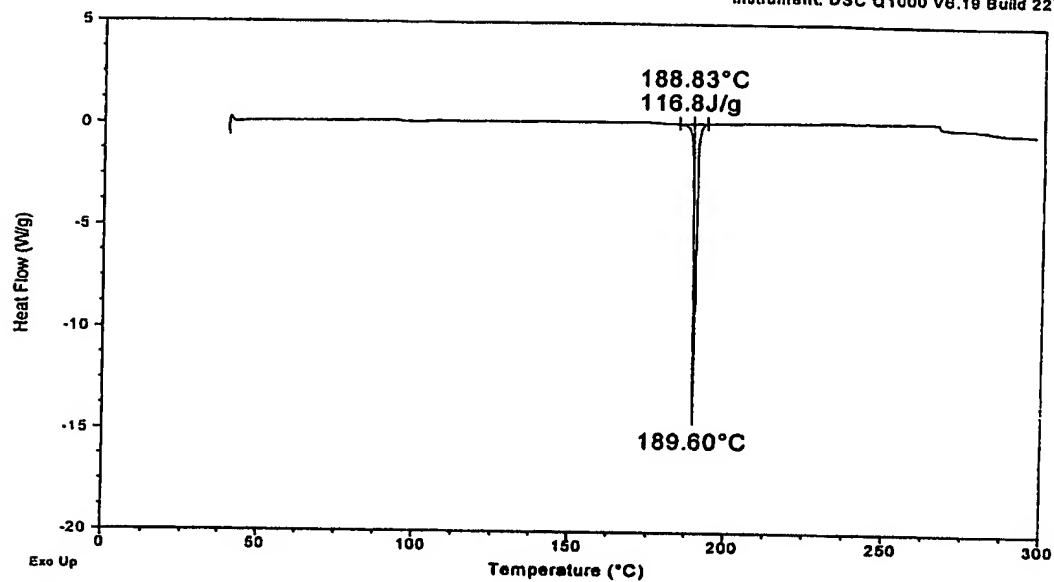


Figure 11

**Figure 13**



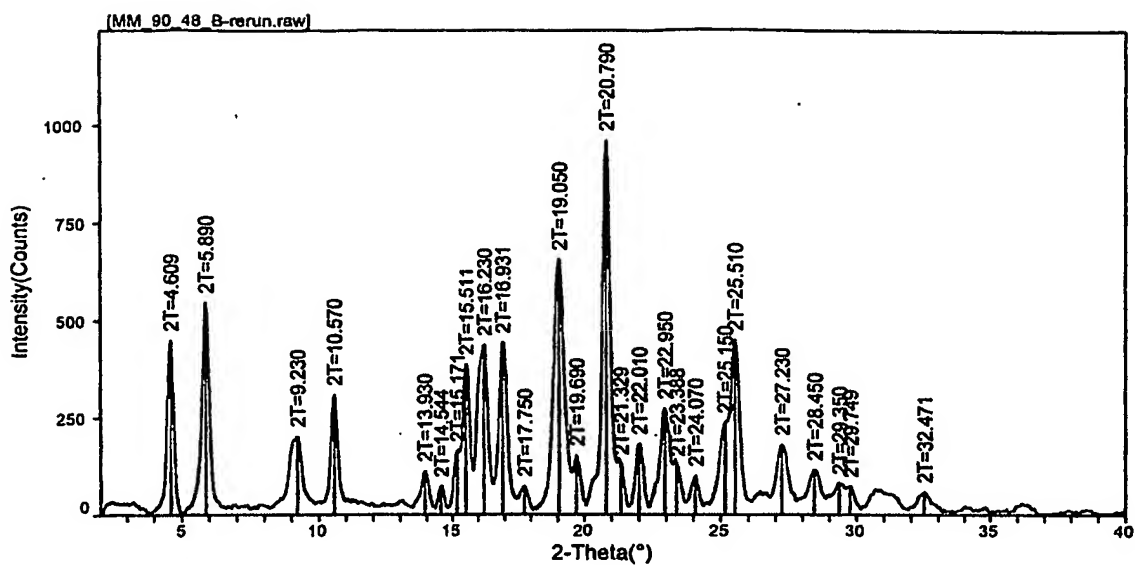


Figure 14

Sample: MM\_90\_48\_B\_DSC  
Size: 2.3890 mg  
Method: Ramp

DSC

File: \\...\\JR\_81\_53\_D\_Mg\_open\_DSC.004  
Operator: MM  
Run Date: 11-Jun-02 10:48  
Instrument: DSC Q1000 V5.1 Build 191

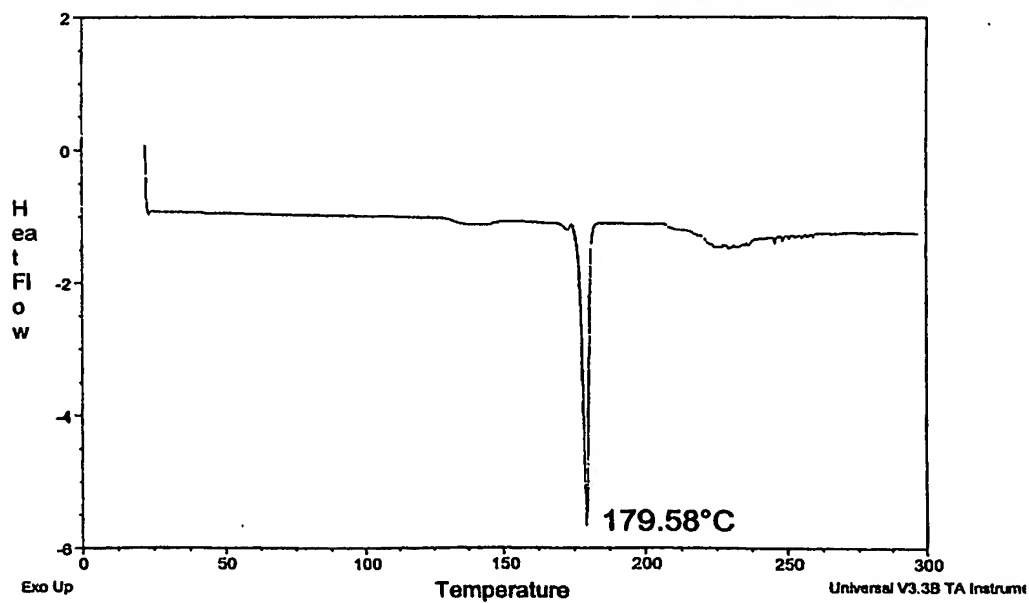


Figure 15

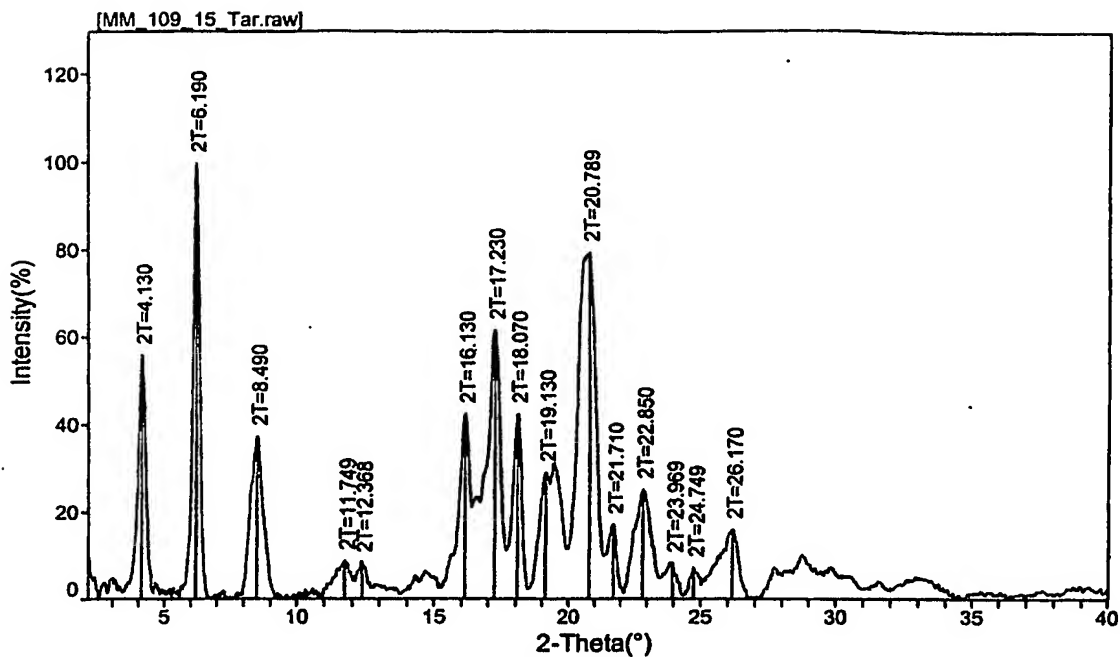


Figure 16

Sample: MM\_109\_15\_Tar  
Size: 1.8790 mg  
Method: Ramp

DSC

File: W:\Ultraconazole\MM\_109\_15\_Tar.001  
Operator: MM  
Run Date: 01-Aug-02 15:16  
Instrument: DSC Q1000 V5.1 Build 191

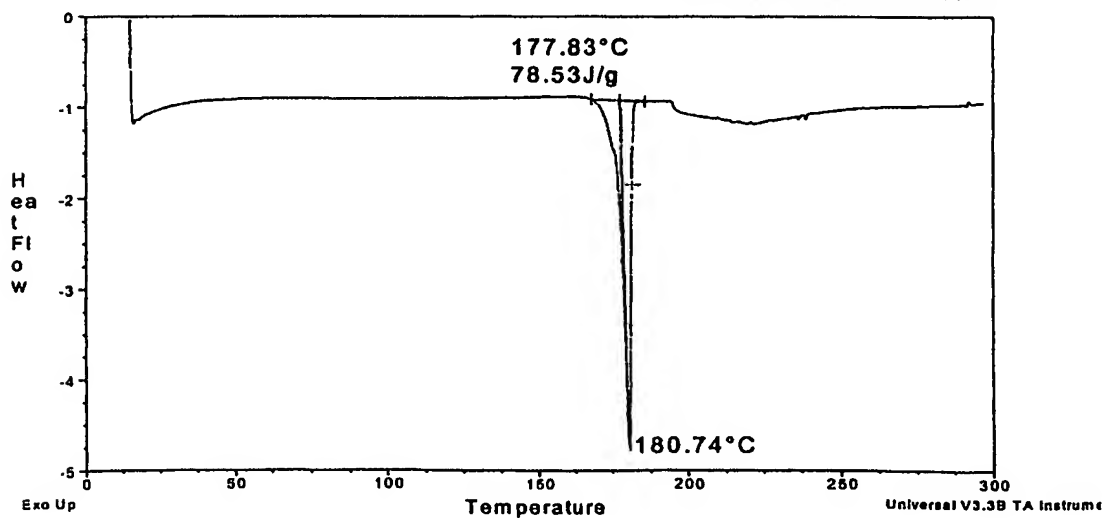


Figure 17

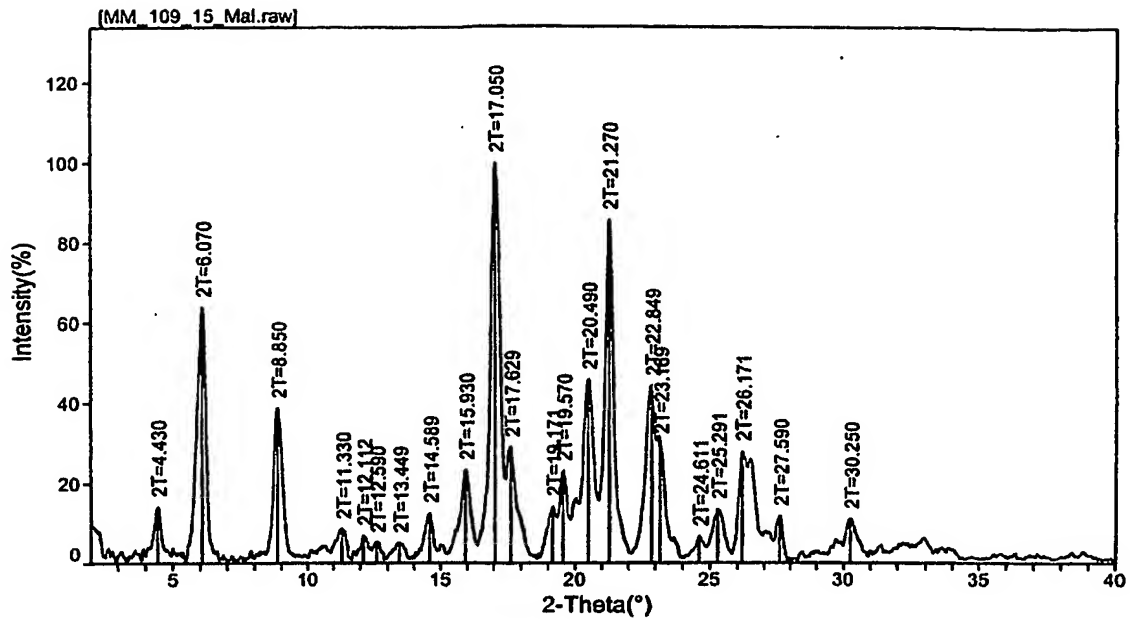


Figure 18

Sample: MM\_109\_15\_Tar  
Size: 1.2140 mg  
Method: Ramp

DSC

File: Y:\...Vitraconazole\MM\_109\_15\_Mal.001  
Operator: MM  
Run Date: 01-Aug-02 14:18  
Instrument: DSC Q1000 V5.1 Build 191

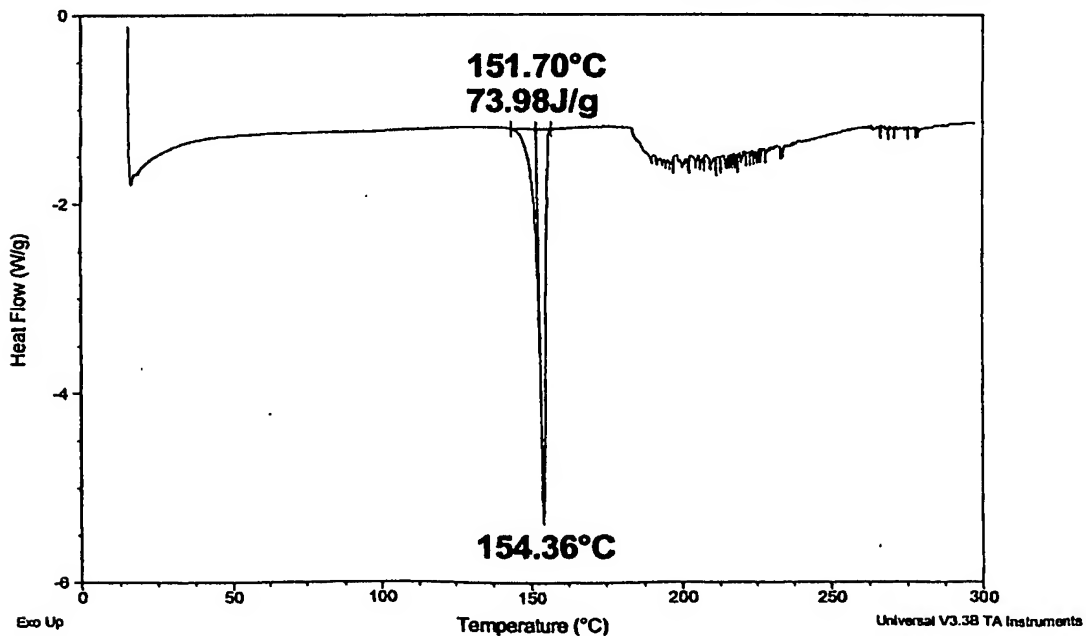


Figure 19

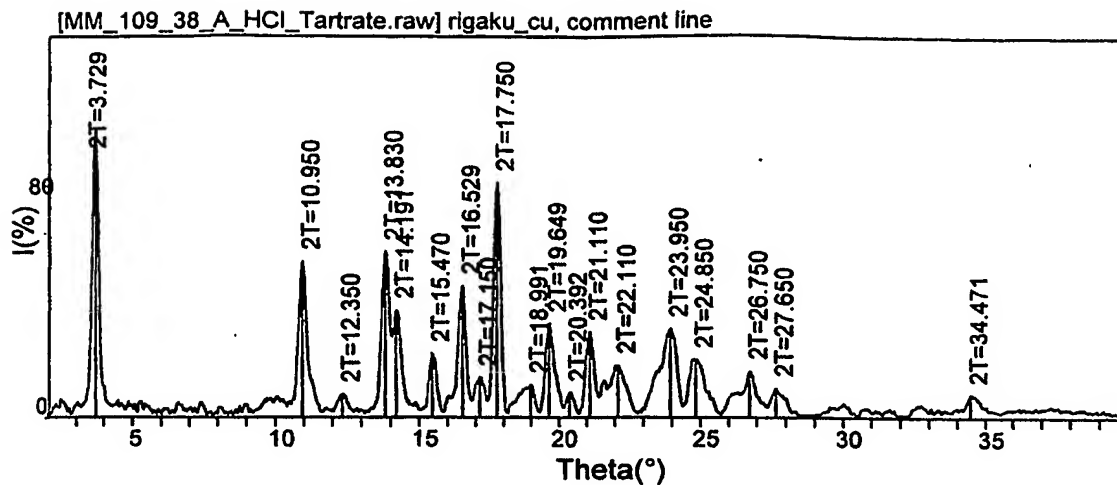


Figure 20

Sample: MM\_109\_38\_A  
Size: 1.5080 mg  
Method: Ramp

DSC

File: \\...Ultraconazole\MM\_109\_38\_A.001  
Operator: MM  
Run Date: 11-Sep-02 10:57  
Instrument: DSC Q1000 V8.19 Build 227

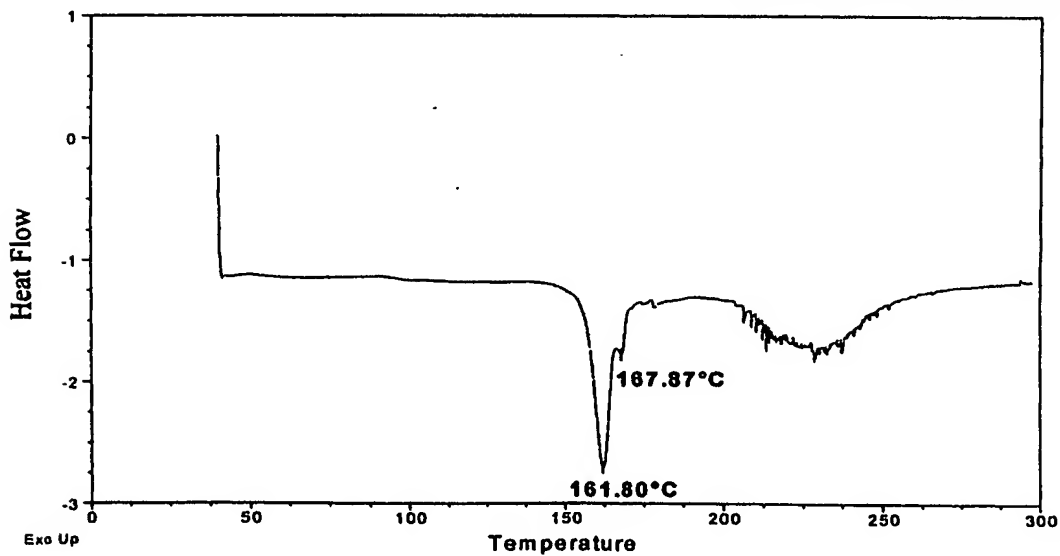


Figure 21

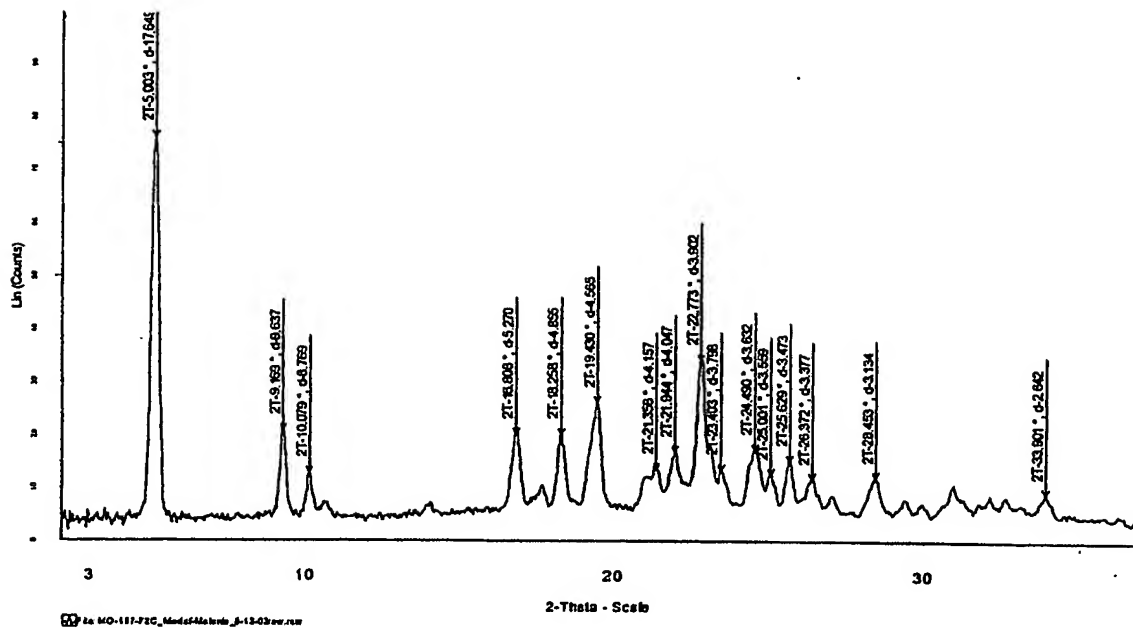


Figure 22

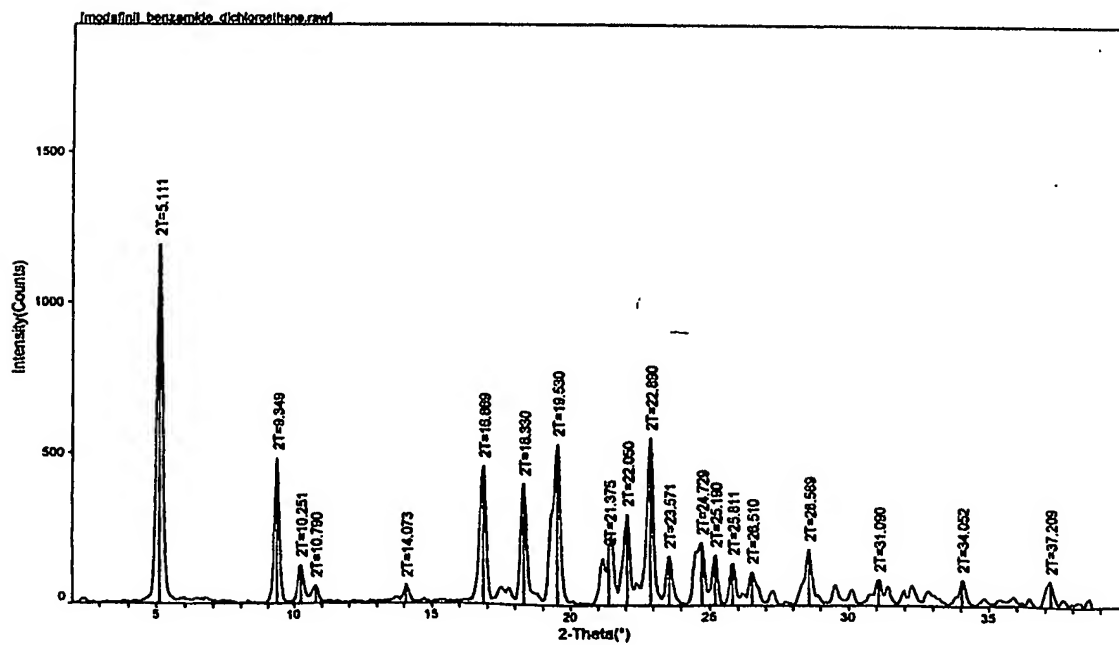


Figure 23

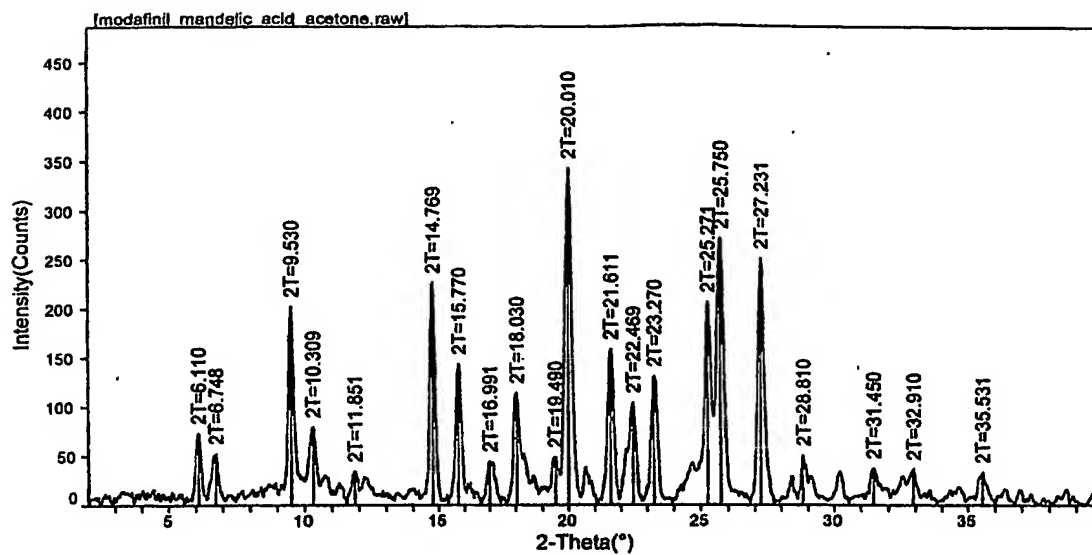


Figure 24

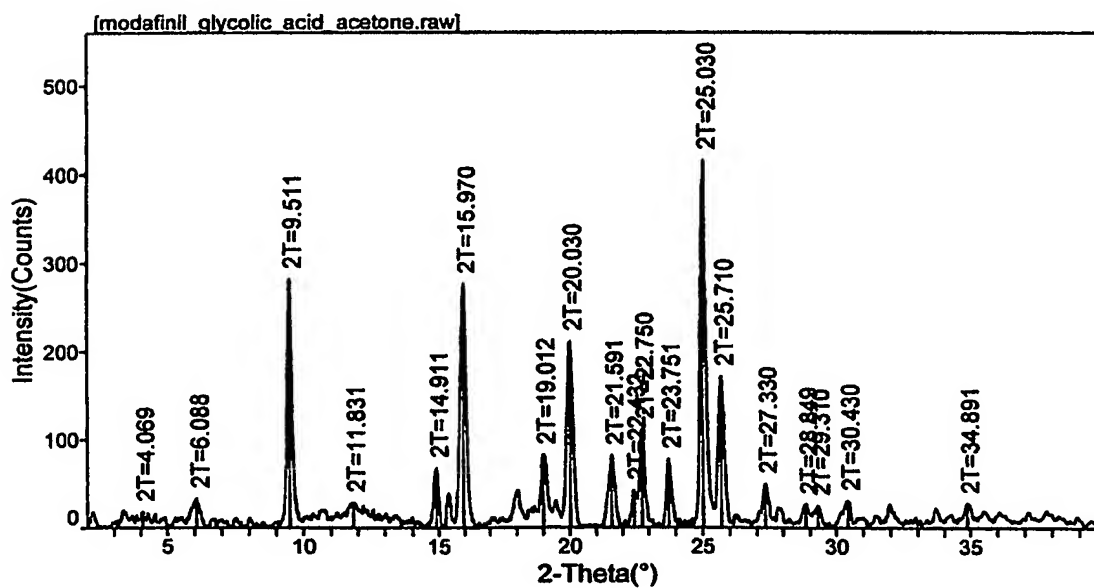


Figure 25

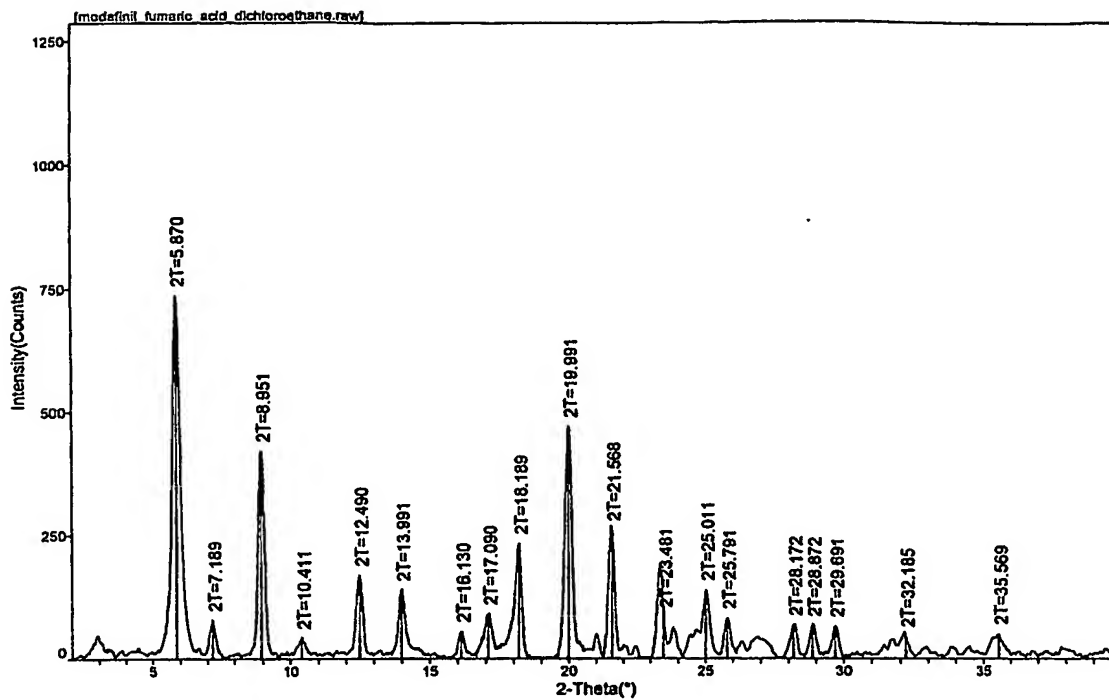


Figure 26

**Celecoxib Forms with Poloxamer 407 and Hydroxypropylcellulose**  
**Dissolution in 5X diluted simulated gastric fluid (fasted state) at 37°C**

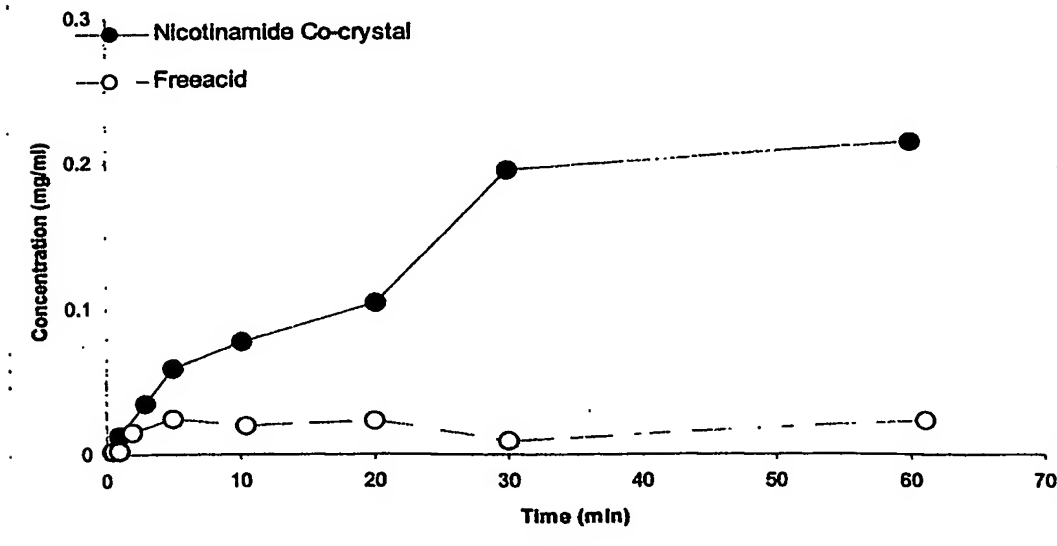
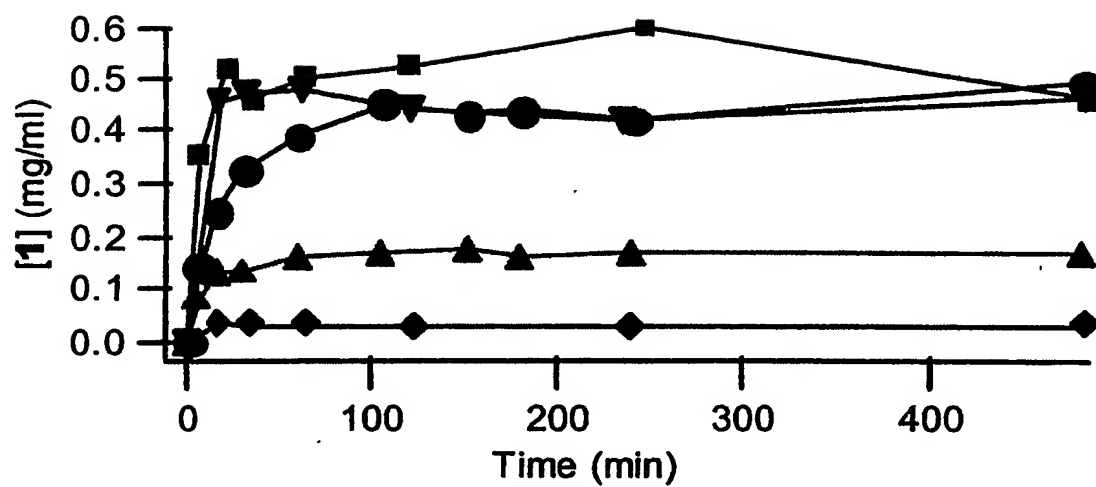


Figure 27



Dissolution profiles into 0.1 N HCl at 25 °C

Sporanox Beads (amorphous freebase) (Rectangle)

l-Malate (Inverted triangle)

l-Tartrate (Oval)

Succinate (Triangle)

Crystalline Freebase (Diamond)

Figure 28



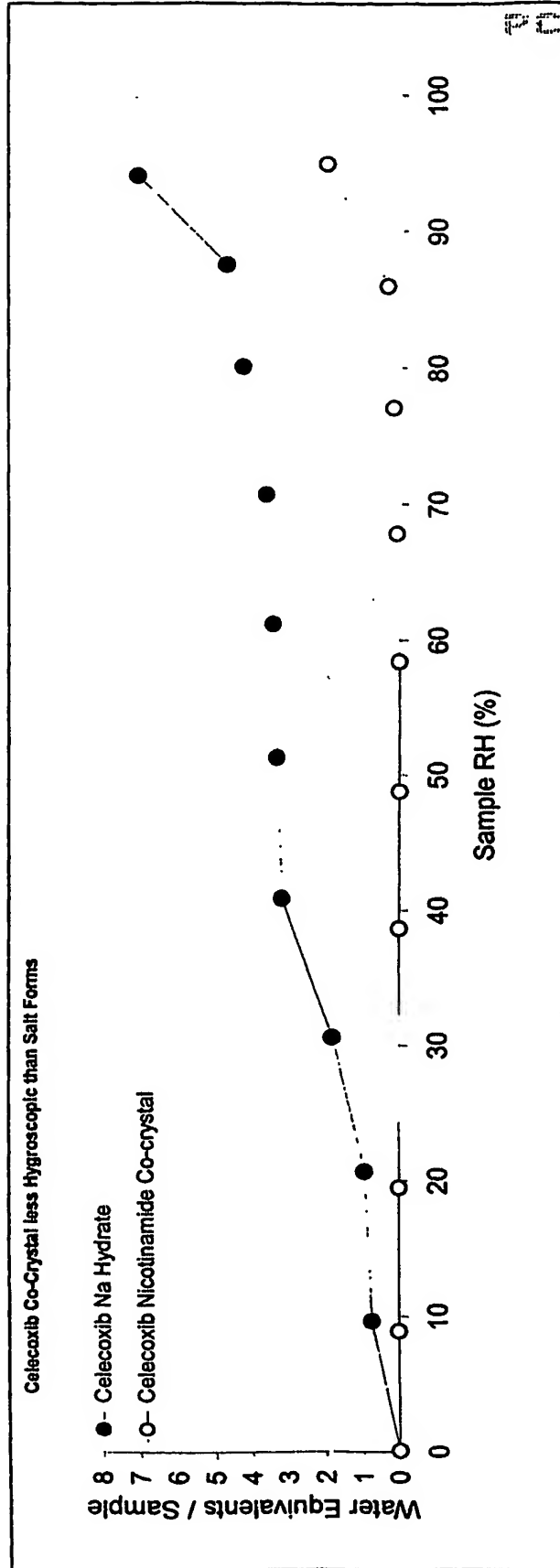


Figure 29

PGT-0003-2772

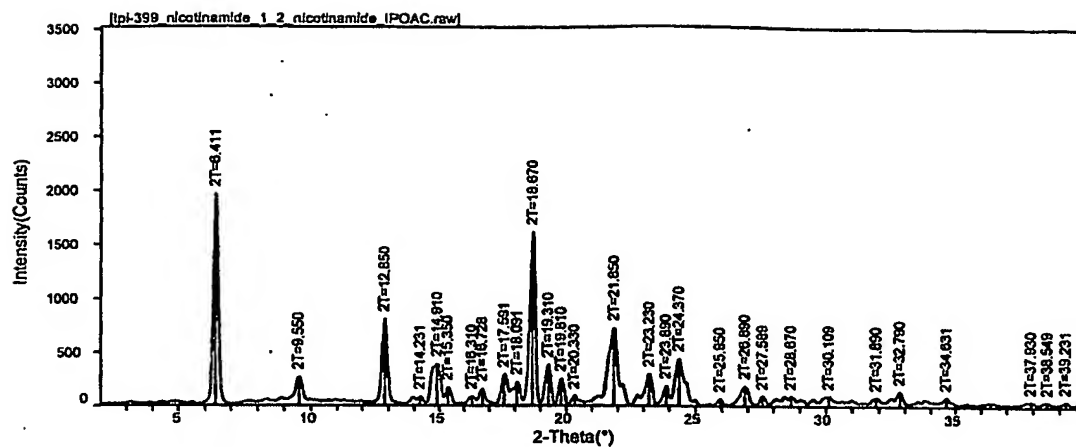


Figure 30

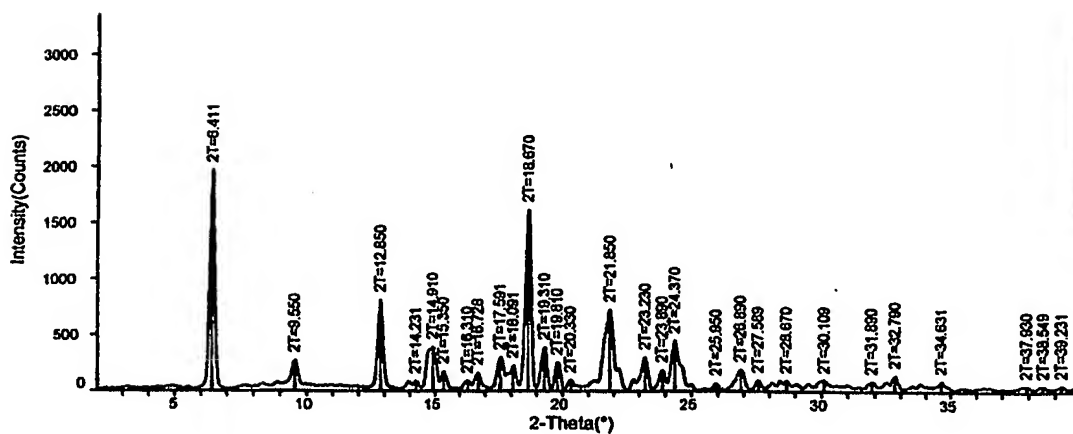
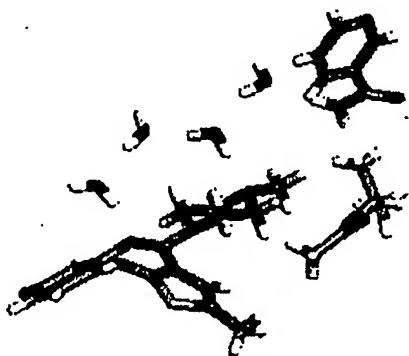
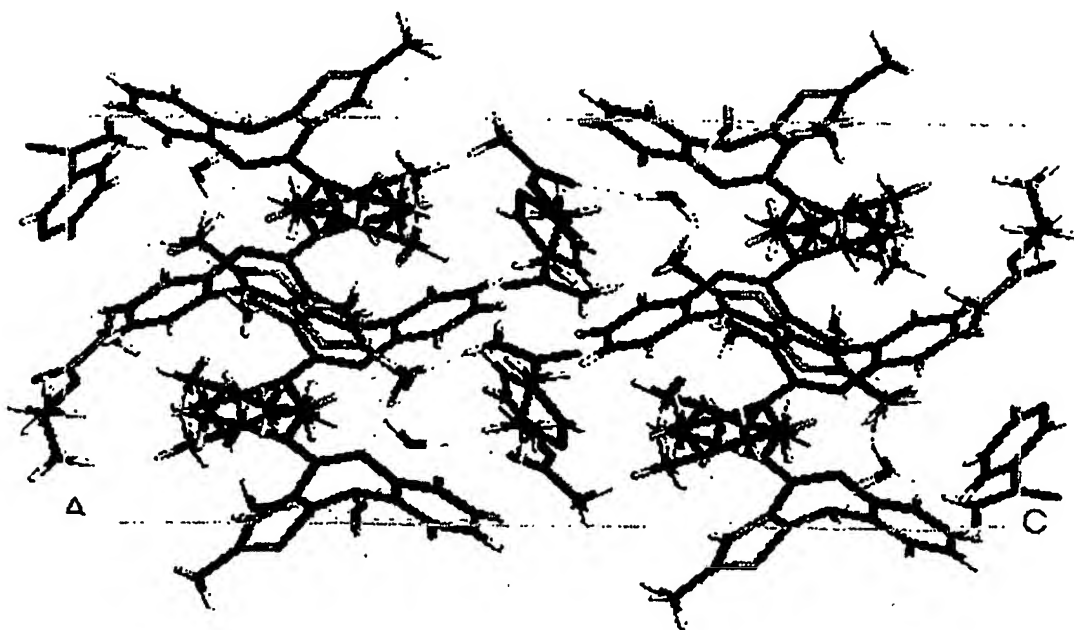


Figure 31

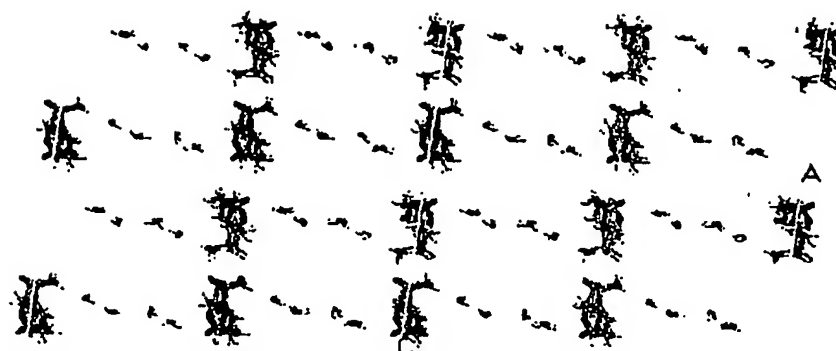
Molecular structure of the Olanzapine-nicotinamide-H<sub>2</sub>O-IPOAc crystal:



**Figure 32A**



**Figure 32B**



The Olanzapine molecules occupy the spaces shown above and are hydrogen bonded to the water molecules.

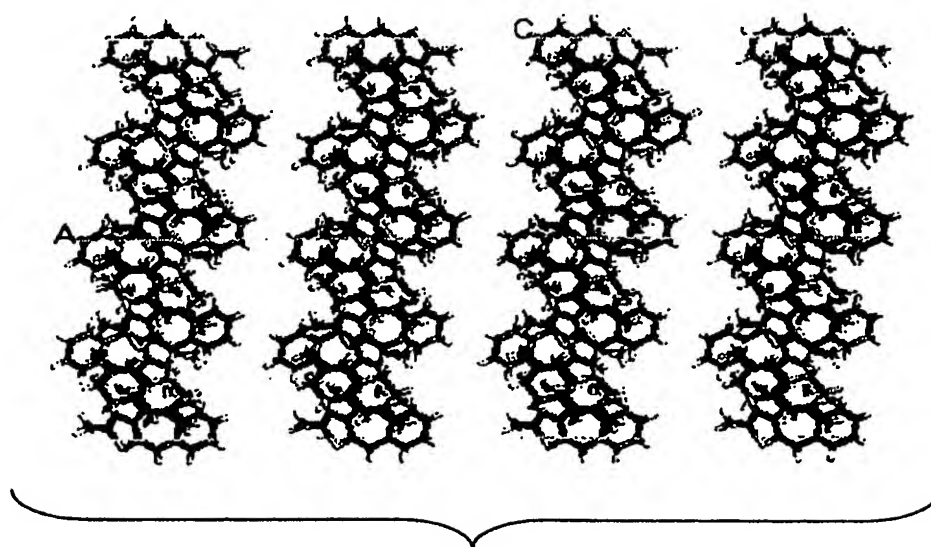


Figure 32C

The arrangement of the Olanzapine molecules is similar to that observed from the methanol solvate and the published structures for the hydrates. The water molecules bridge the Olanzapine moieties resulting in hydrogen-bonded zigzag sheets.

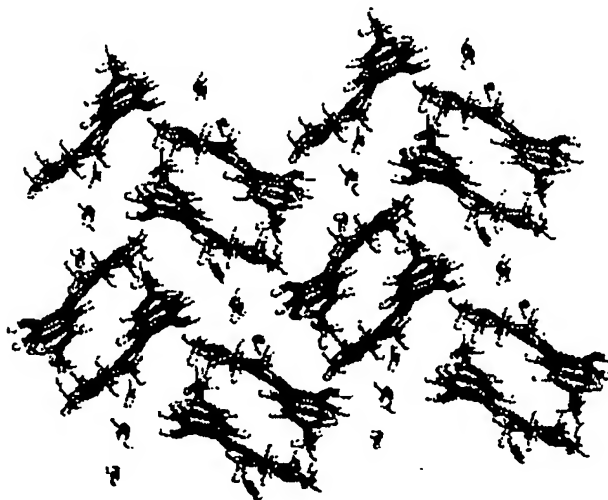


Figure 32D

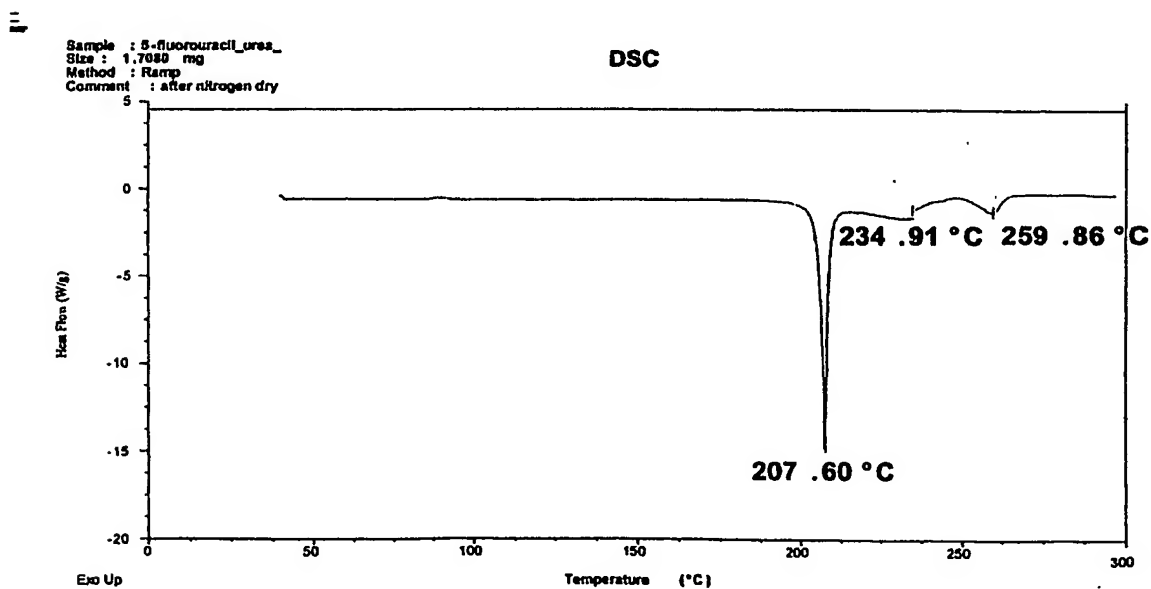


Figure 33

Sample : fluorouracil\_urea\_  
Size : 2.4390 mg  
Method : Ramp  
Comment : stability study initial sample

TGA

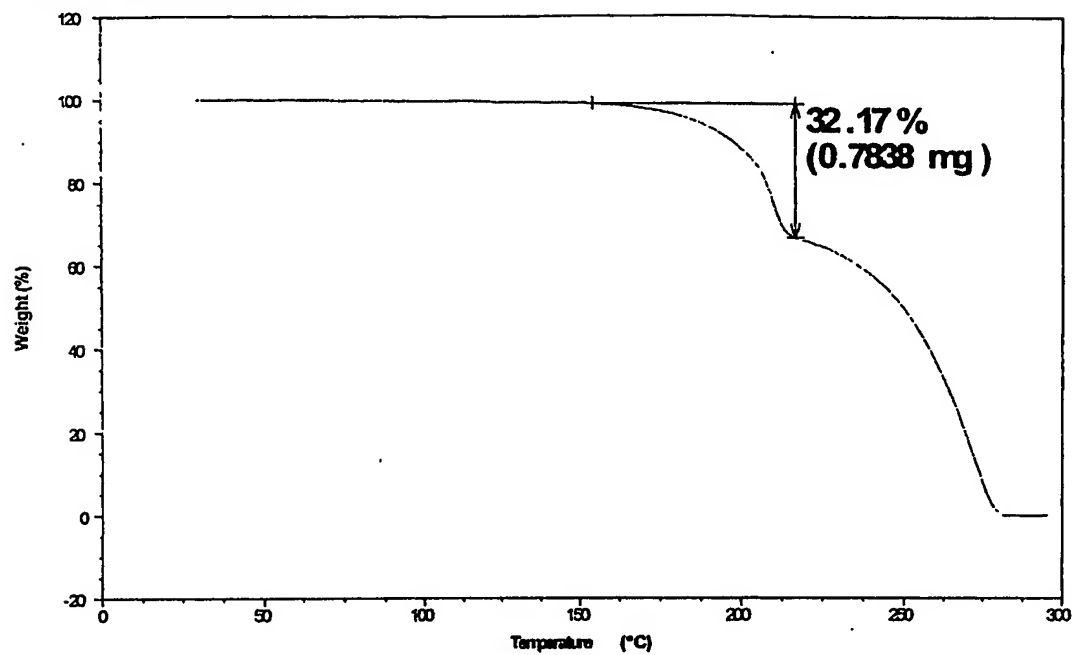


Figure 34

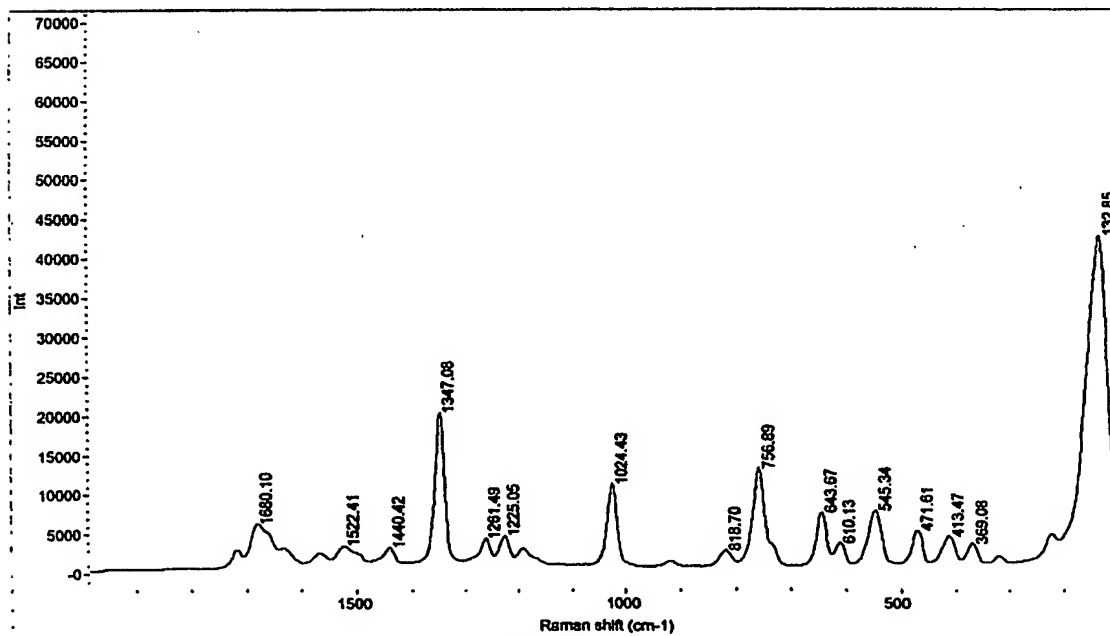


Figure 35

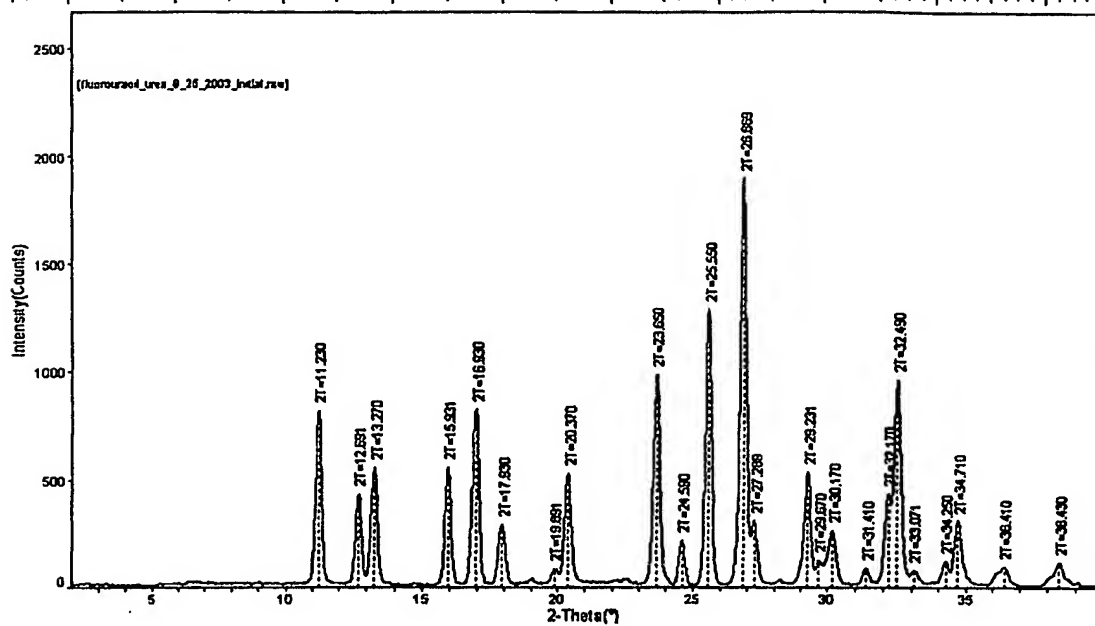
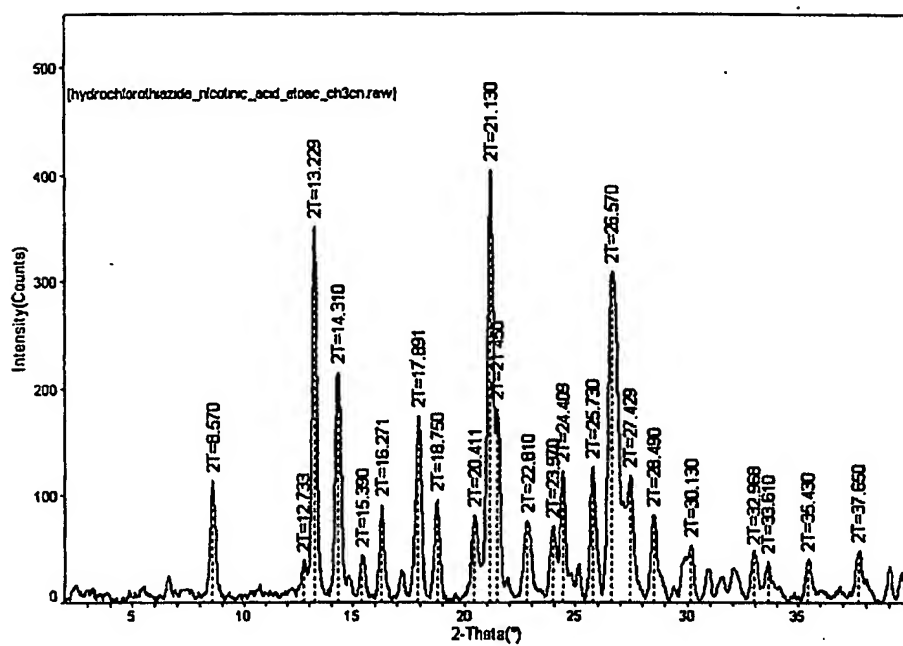


Figure 36



Materials Data, Inc.

Tuesday, Sep 02, 2003 11:02a (MDI/JADES)

Figure 37



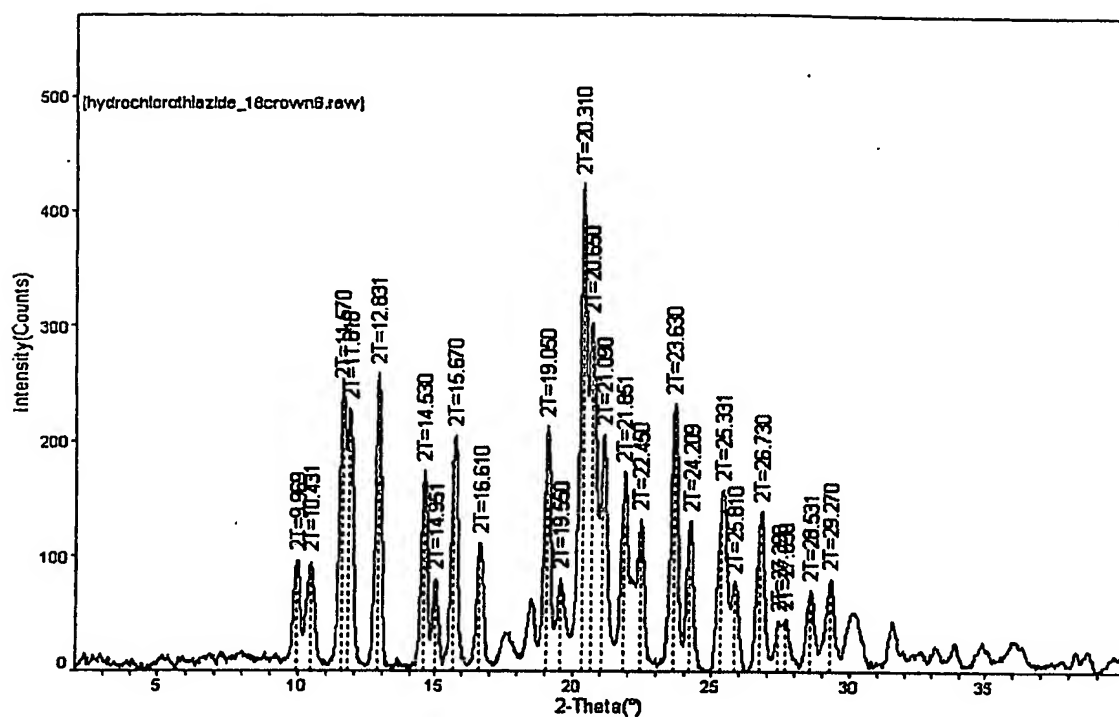


Figure 38

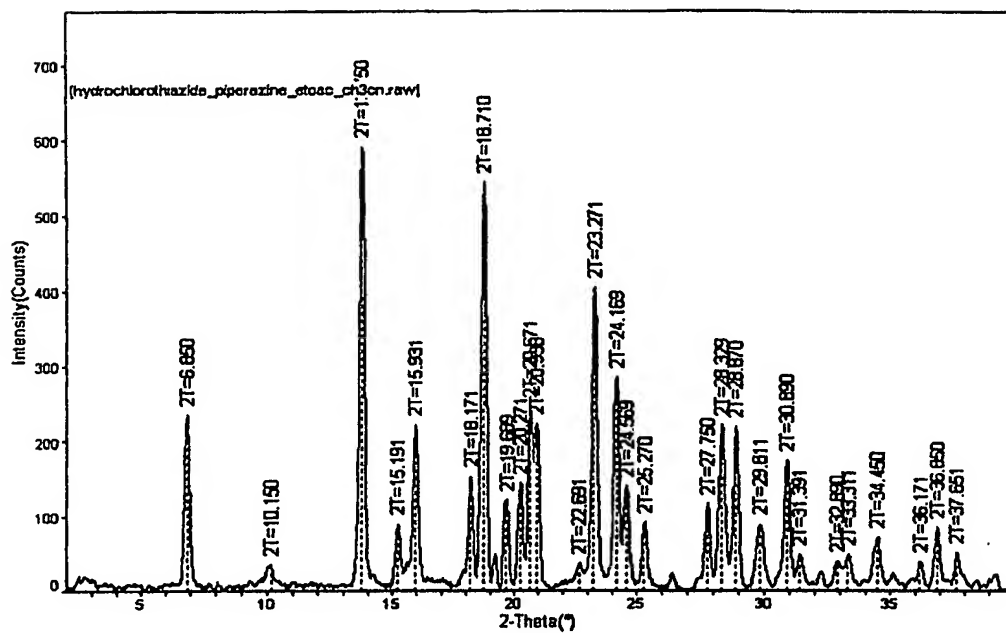


Figure 39

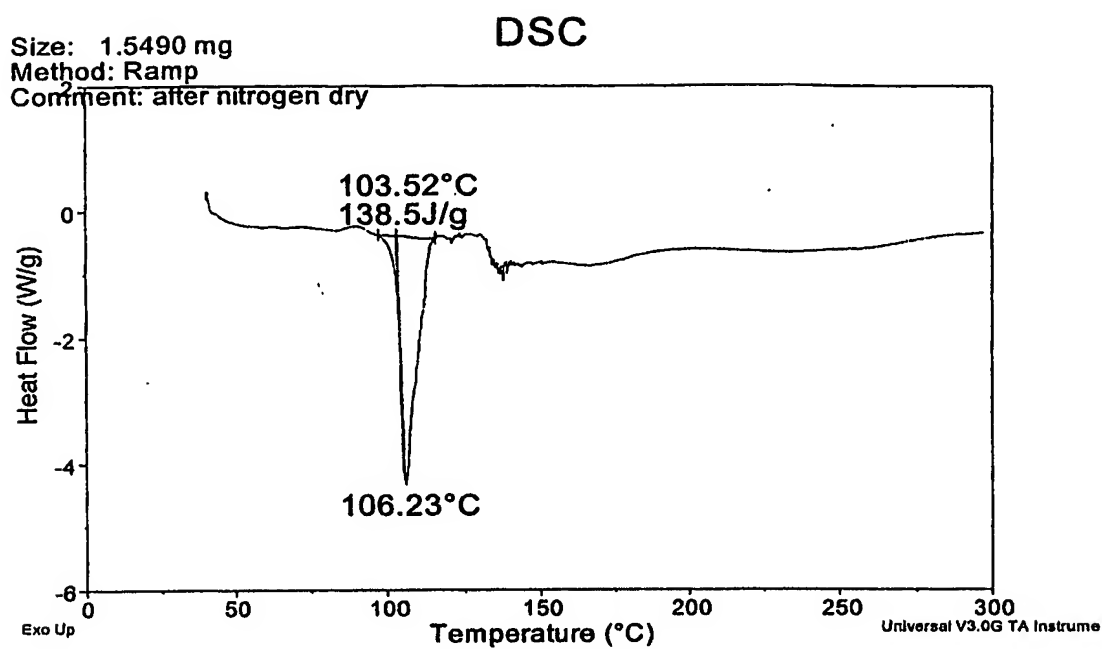


Figure 40

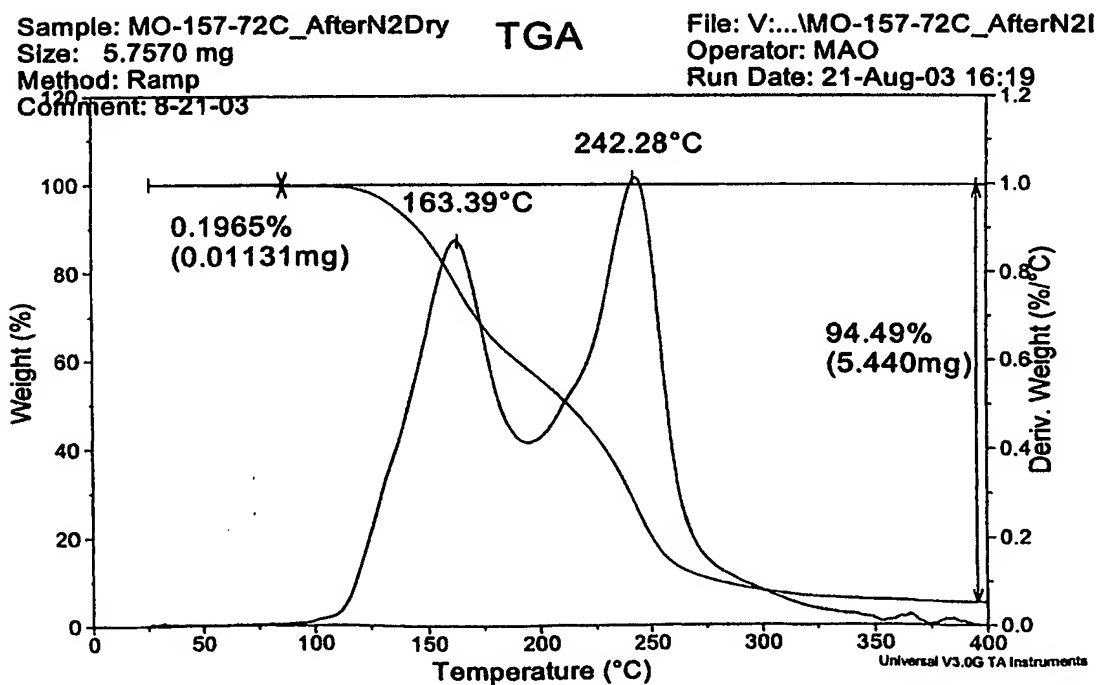
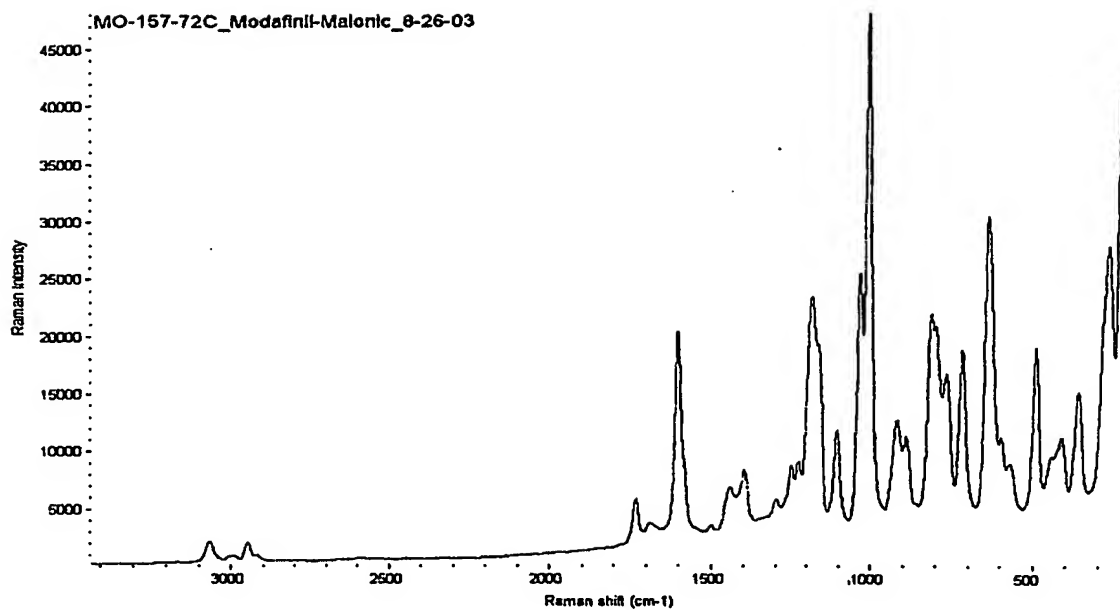


Figure 41



## FIND PEAKS:

Spectrum: MO-157-72C\_Modafinil-Malonic

Region: 3432 200

Absolute threshold: 686.428

Sensitivity: 00

## Peak list:

Position:	1004	Intensity:	48530.113
Position:	222	Intensity:	41631.176
Position:	633	Intensity:	30431.465
Position:	285	Intensity:	27932.348
Position:	1032	Intensity:	25424.109
Position:	1183	Intensity:	23455.441
Position:	814	Intensity:	21888.129
Position:	1804	Intensity:	20374.211
Position:	400	Intensity:	18917.489
Position:	718	Intensity:	18779.322
Position:	787	Intensity:	18691.541
Position:	381	Intensity:	16080.872
Position:	917	Intensity:	12661.293
Position:	1104	Intensity:	11708.740
Position:	889	Intensity:	11172.833
Position:	412	Intensity:	11137.415
Position:	1225	Intensity:	9027.109
Position:	1251	Intensity:	8844.633
Position:	1398	Intensity:	8262.702
Position:	1442	Intensity:	8738.894
Position:	1731	Intensity:	6730.559
Position:	1268	Intensity:	6700.058
Position:	3005	Intensity:	1935.514
Position:	2949	Intensity:	1912.835

Exposure time: 2.00 sec

Number of exposures: 15

Number of background exposures: 15

Grating: 350 lines/mm

Spectrograph aperture: 100  $\mu$ m slit

Figure 42

**Figure 43**

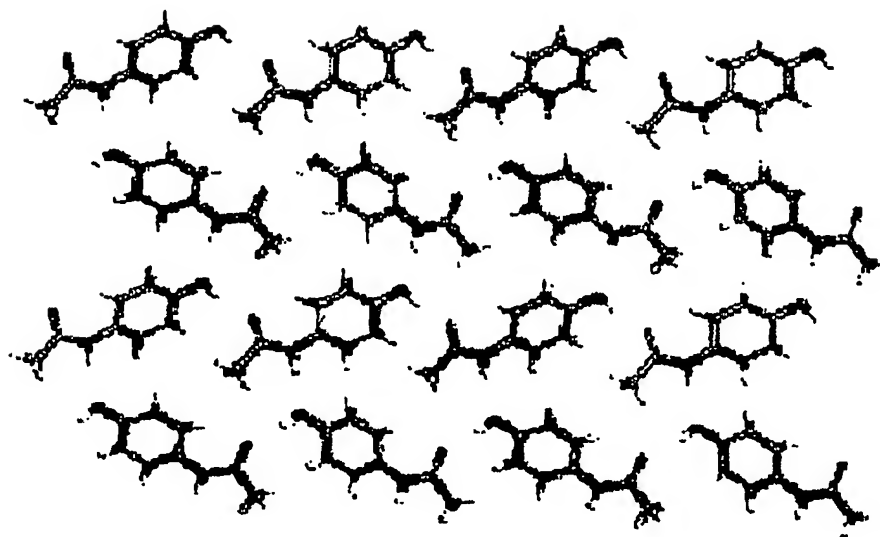


Figure 44A

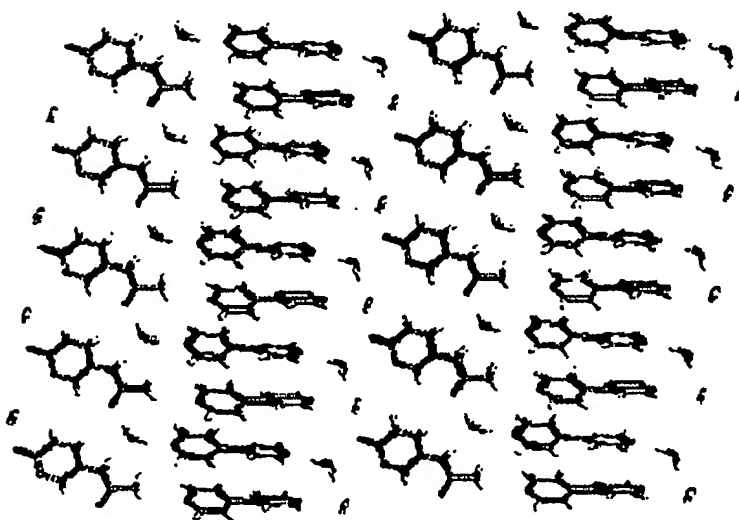


Figure 44B

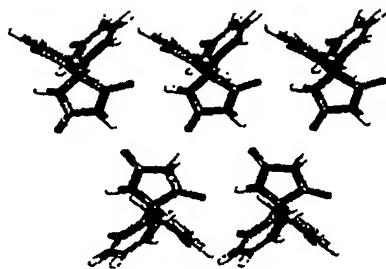


Figure 45A

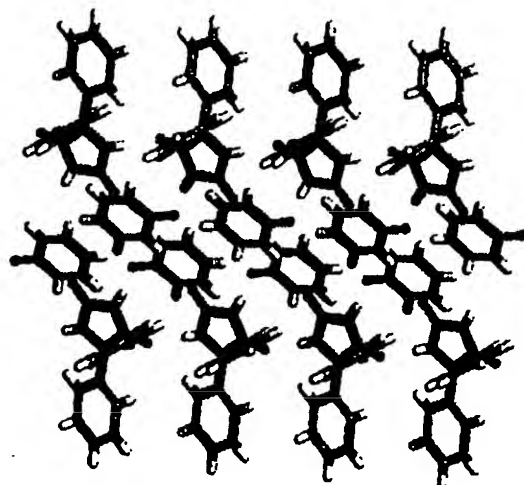


Figure 45B

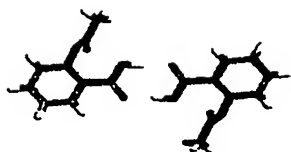


Figure 46A



Figure 46C

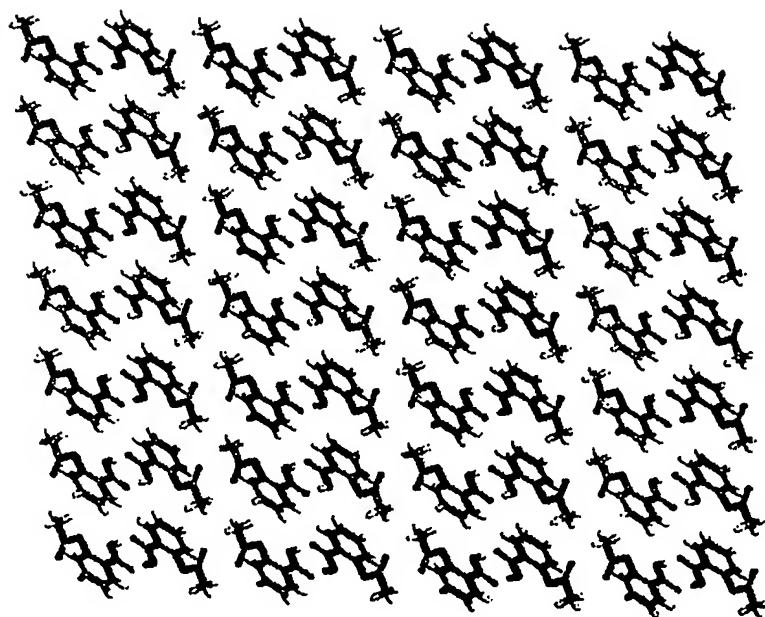


Figure 46B

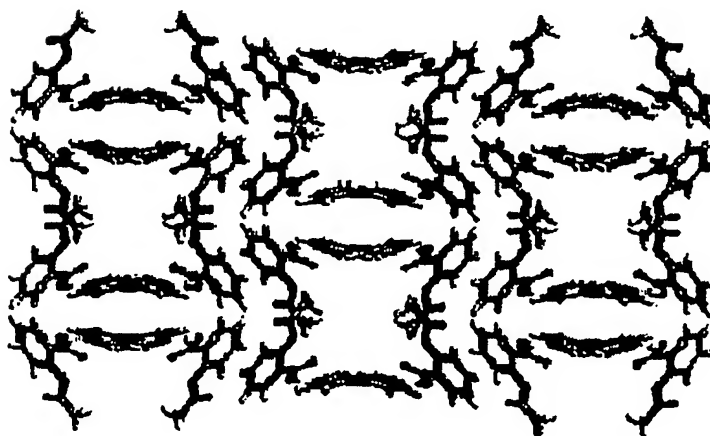


Figure 46D



Figure 47A

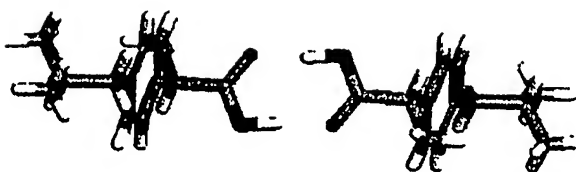


Figure 47C

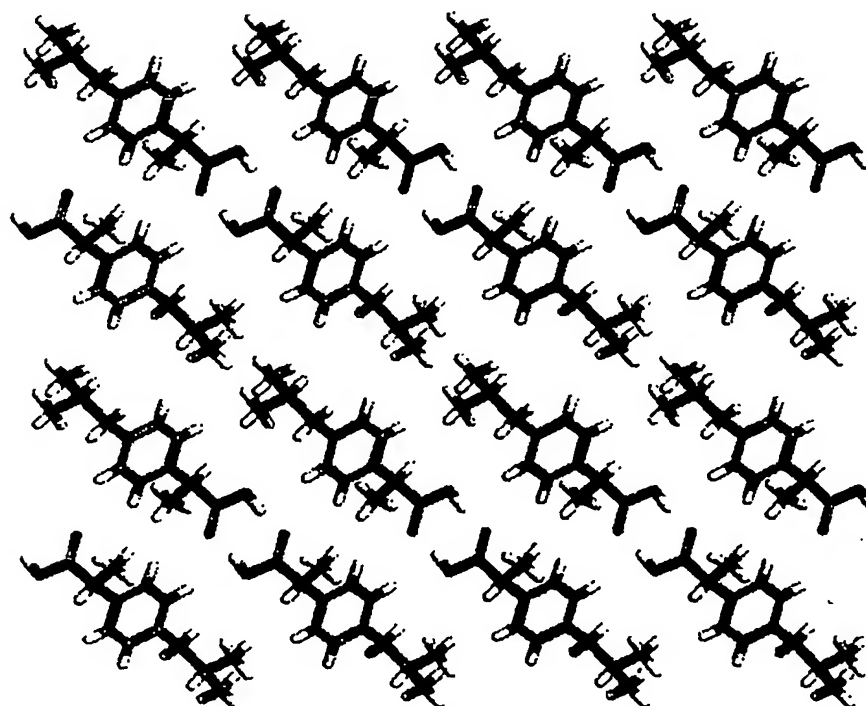
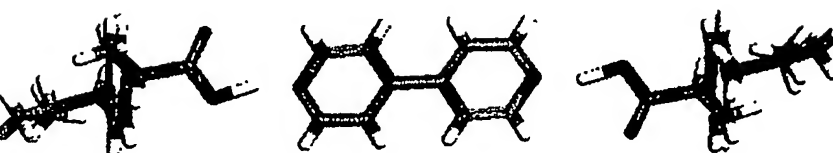


Figure 47B

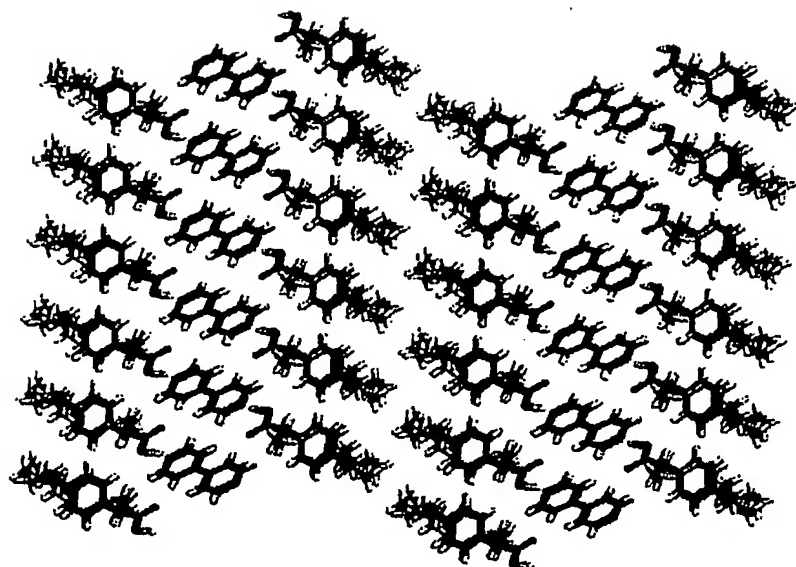


Figure 47D

Figure 48A

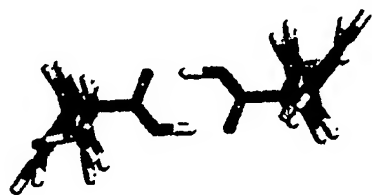
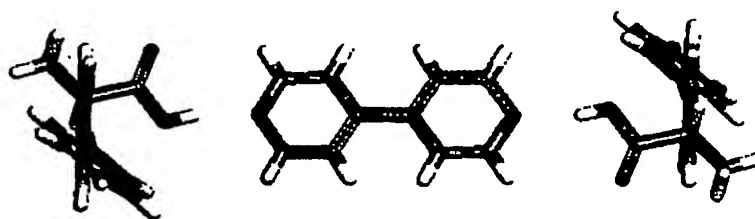


Figure 48C



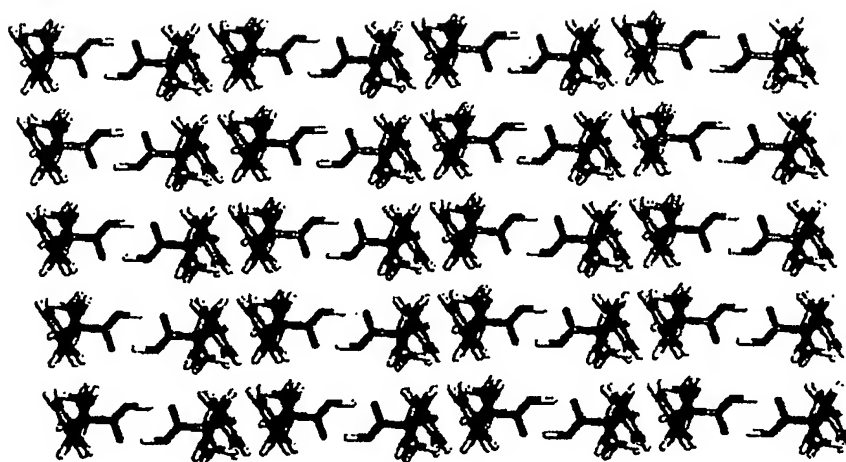


Figure 48B

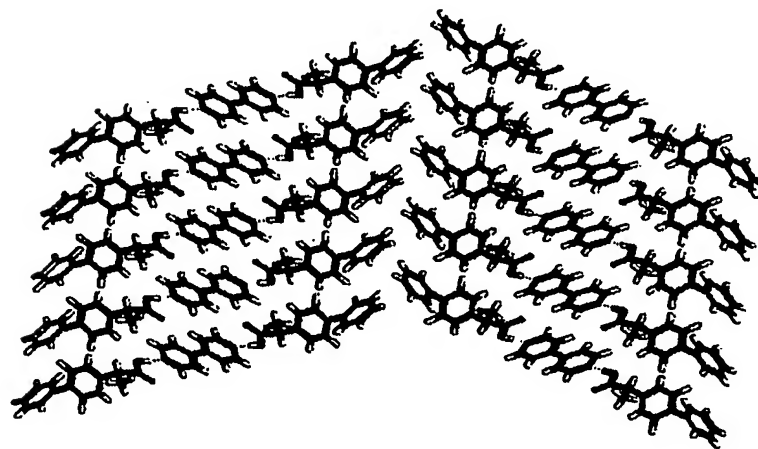


Figure 48D

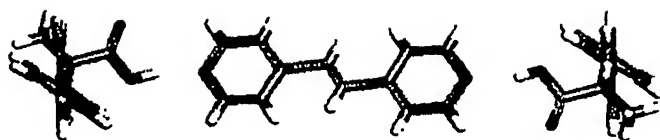


Figure 49A

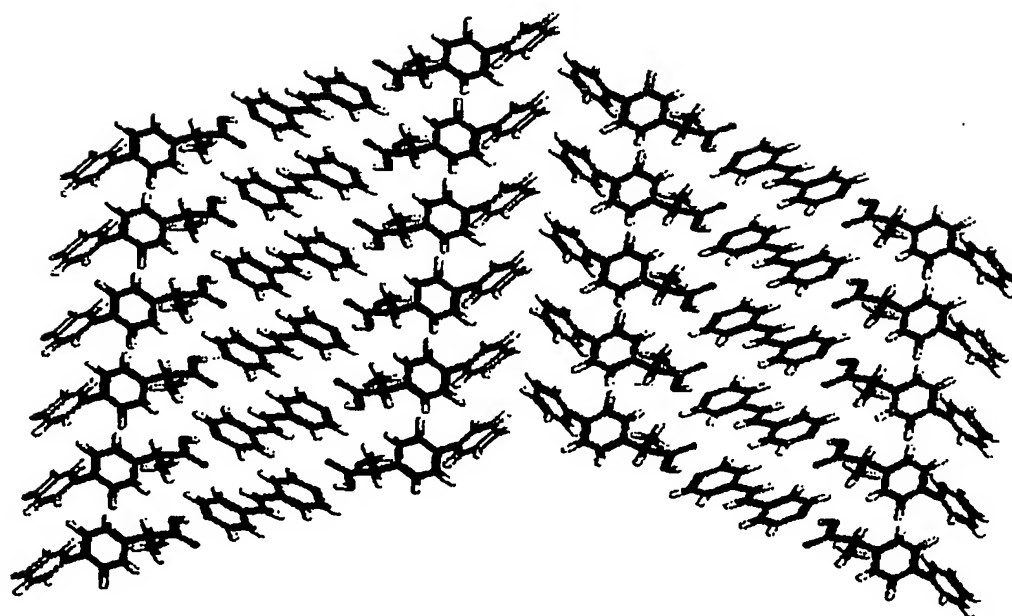


Figure 49B

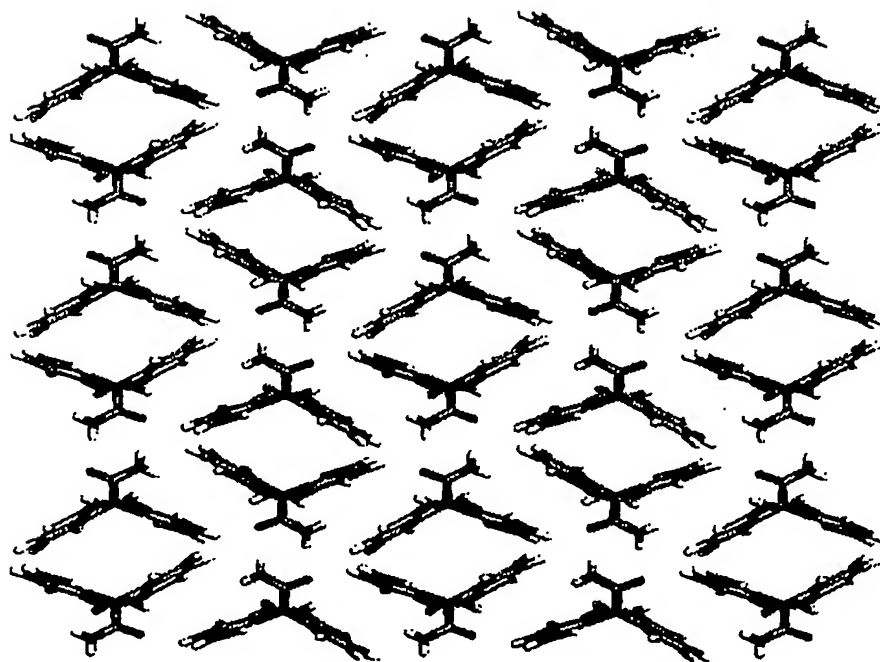


Figure 50A

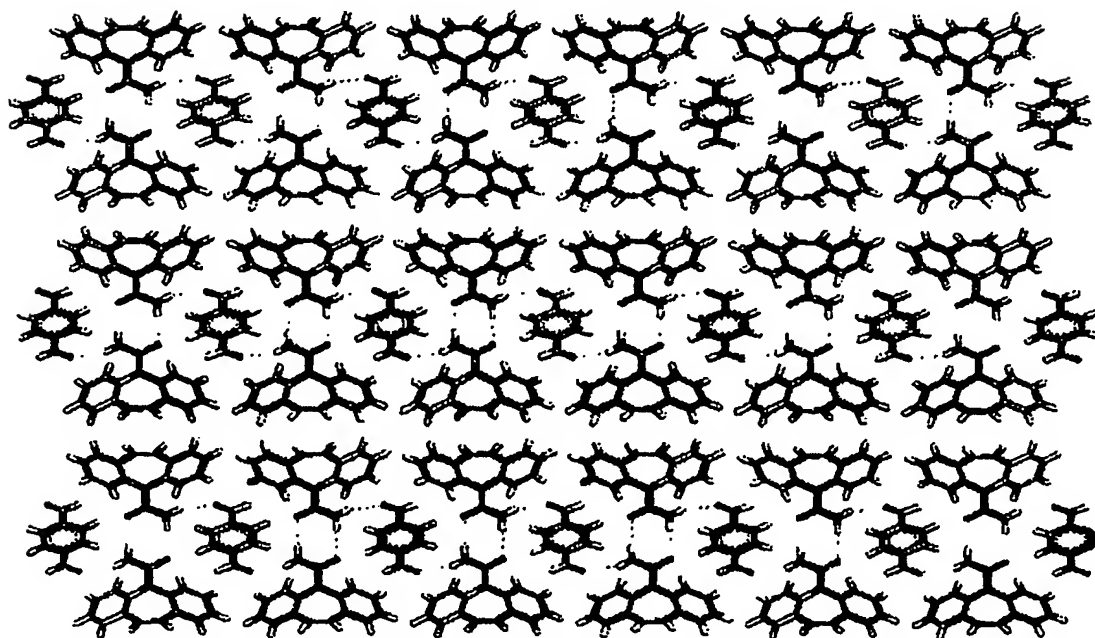


Figure 50B

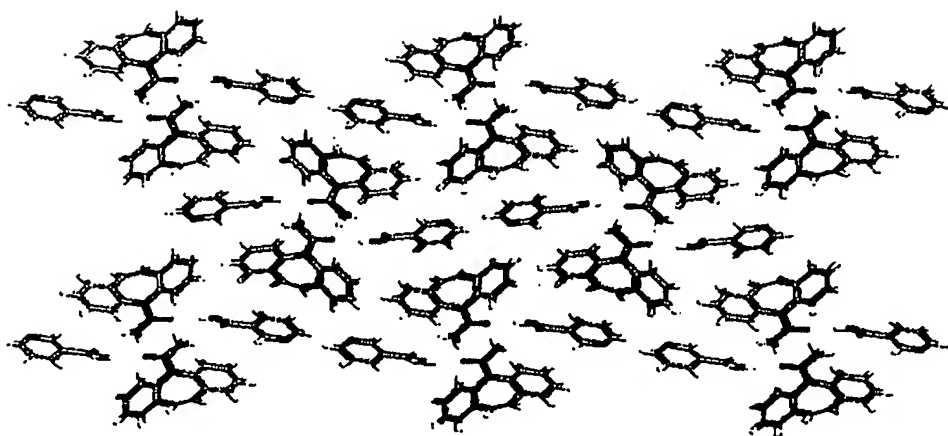


Figure 51

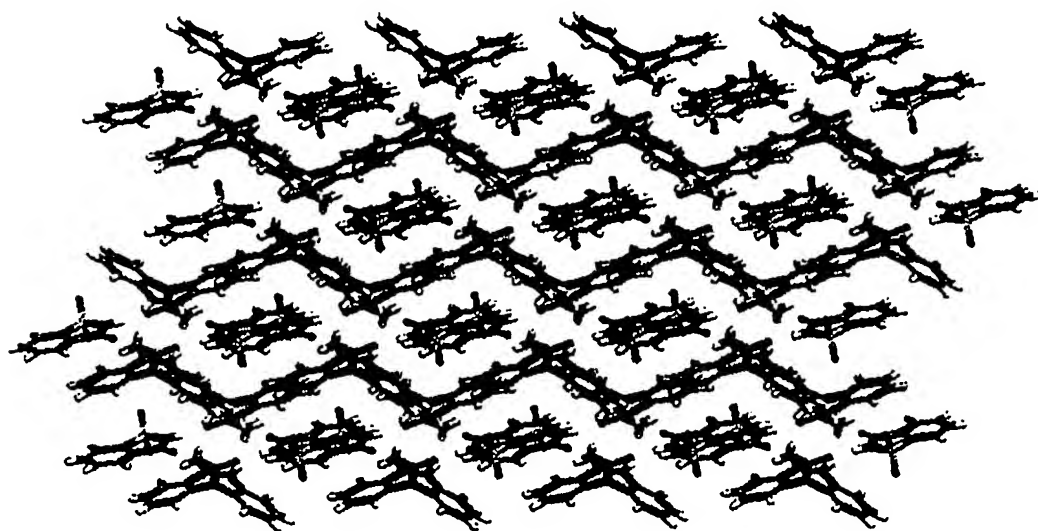


Figure 52

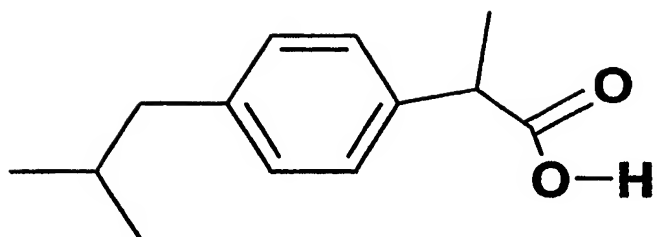


Figure 53A

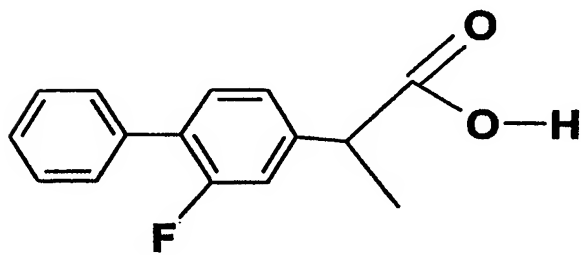


Figure 53B

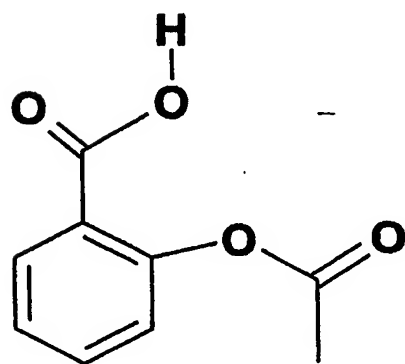


Figure 53C

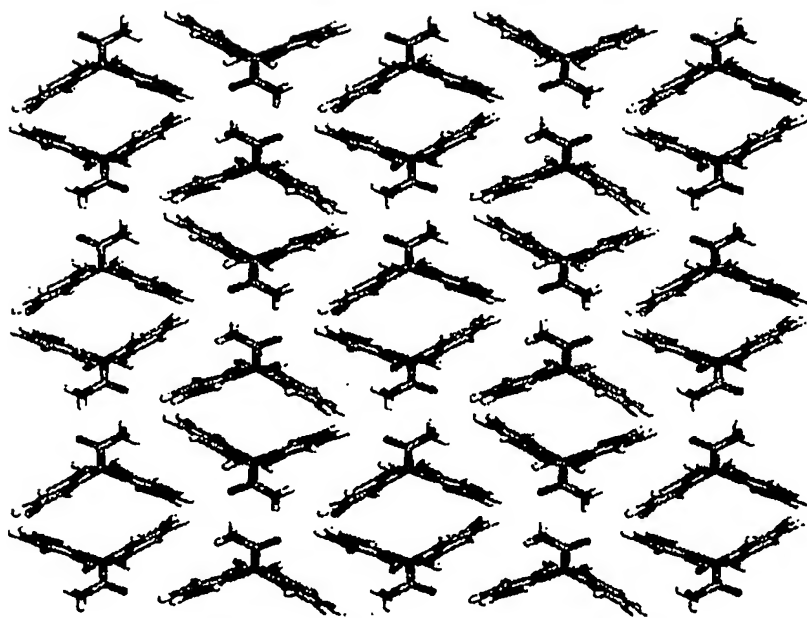


Figure 54A

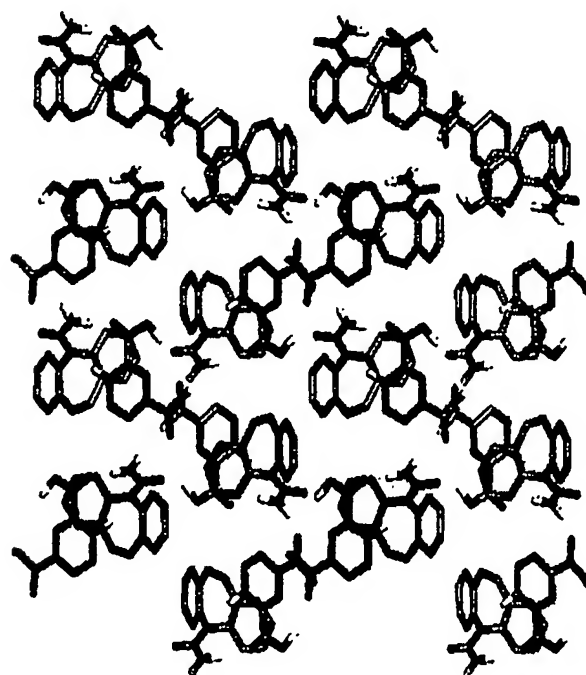


Figure 54B



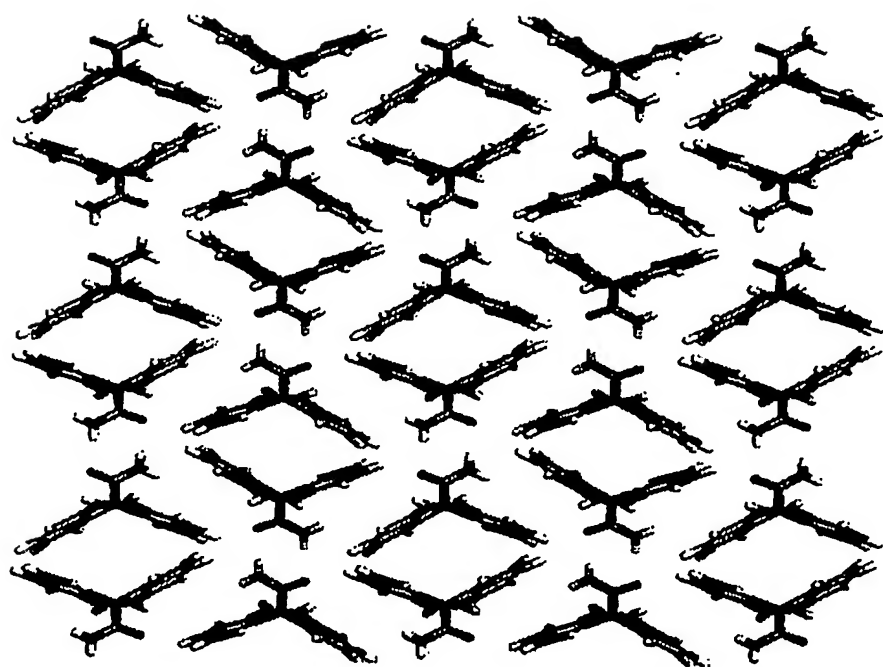


Figure 55A

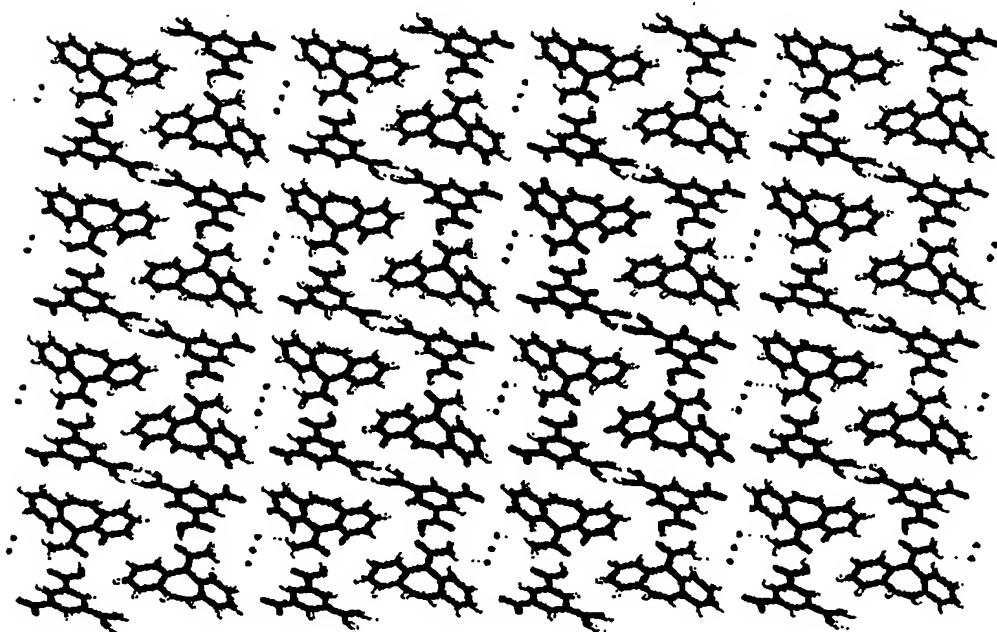


Figure 55B

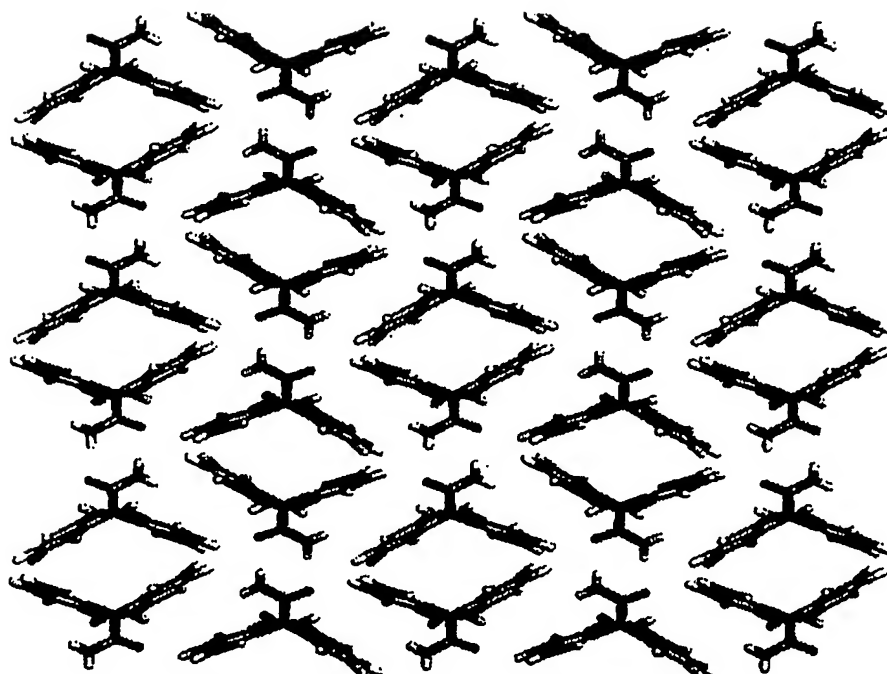


Figure 56A

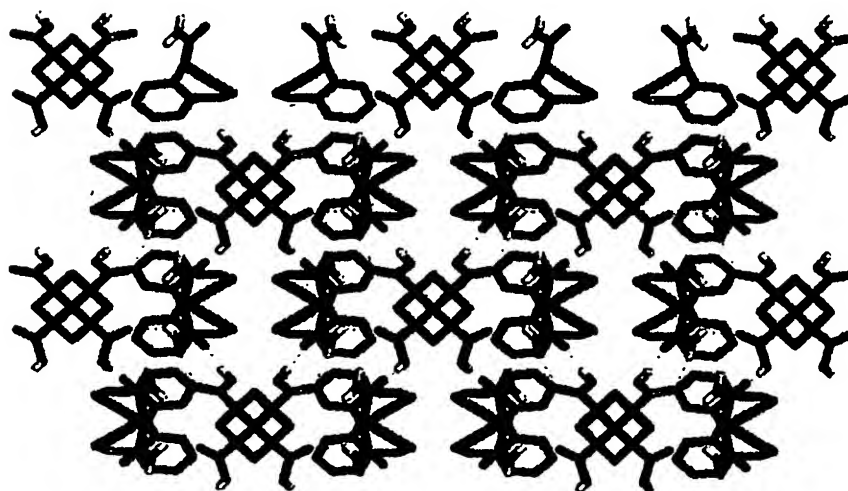


Figure 56B

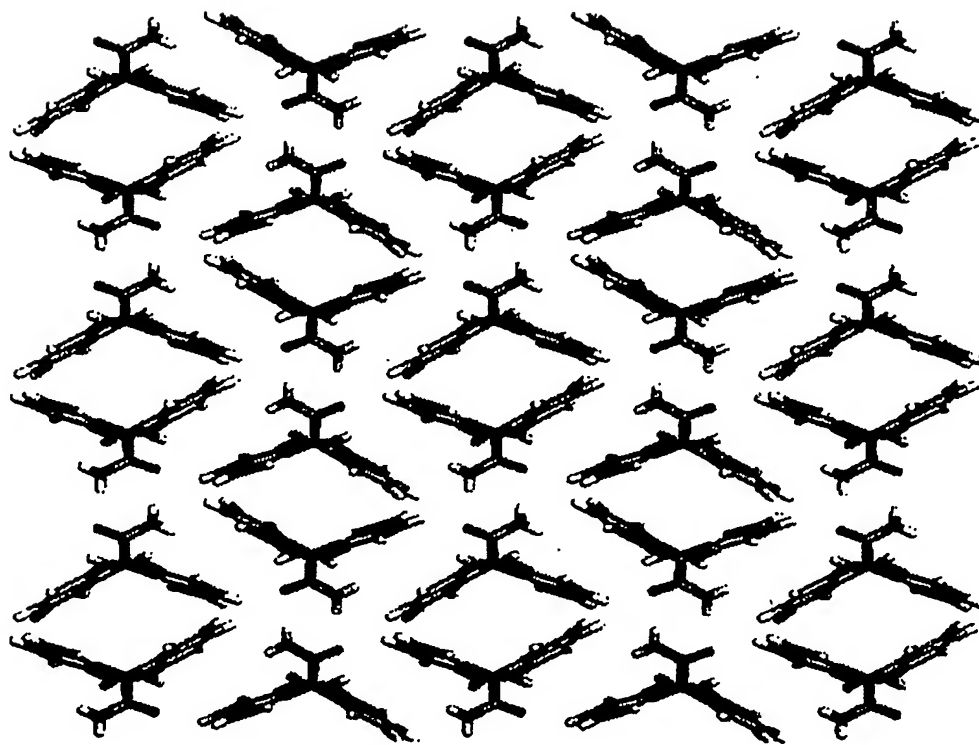


Figure 57A

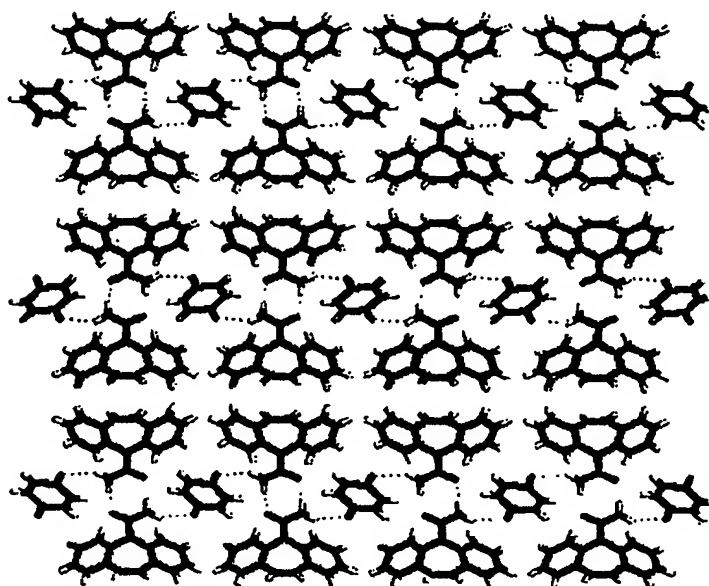


Figure 57B

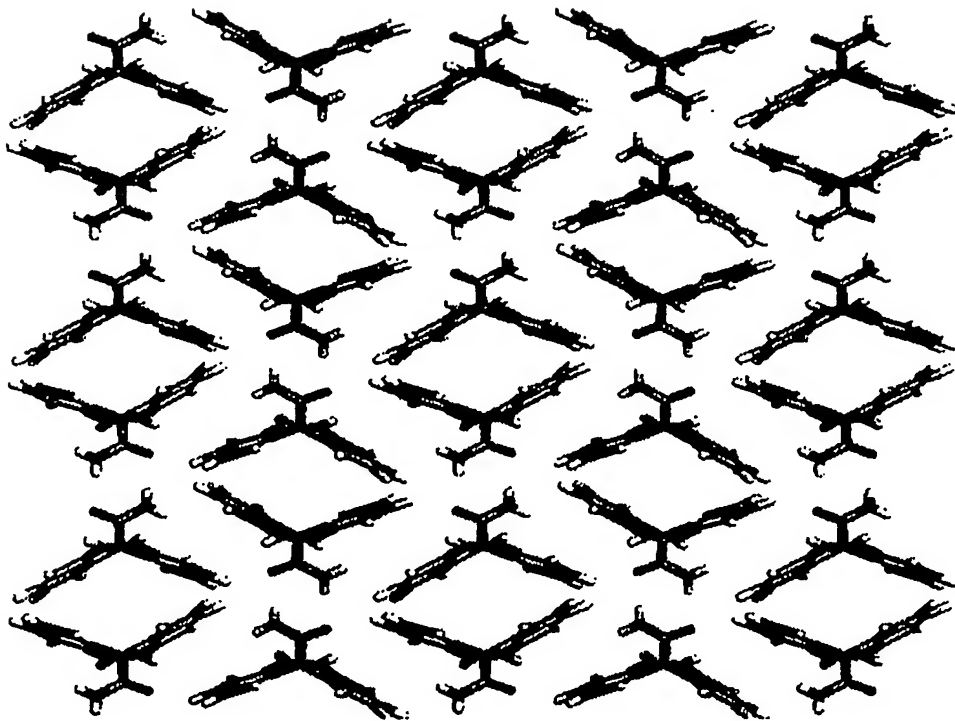


Figure 58A

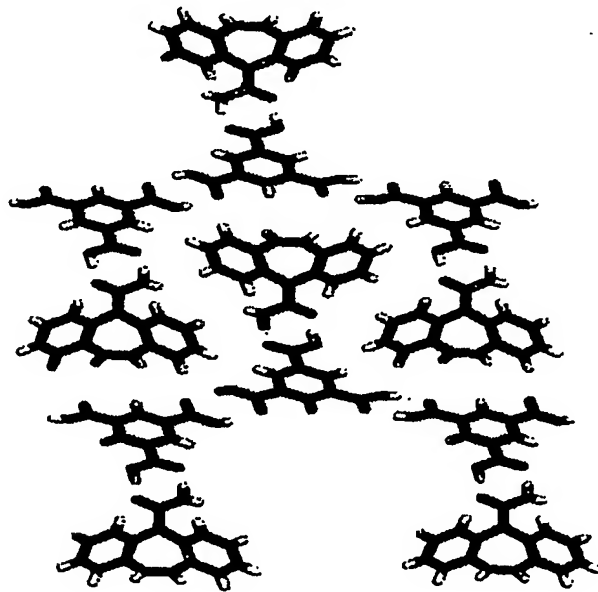


Figure 58B

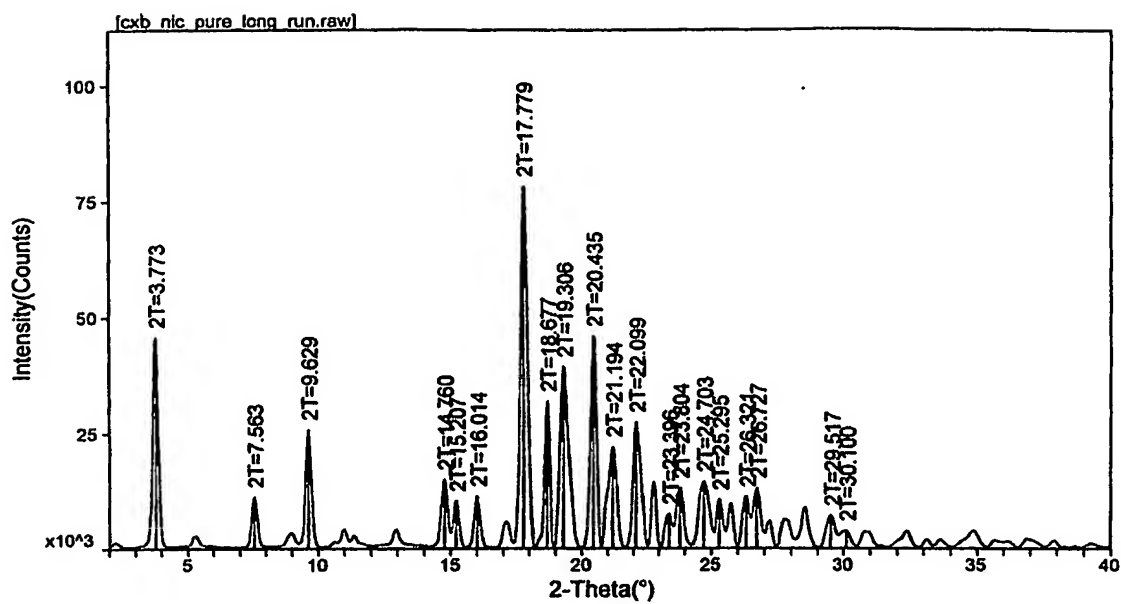


Figure 59

Sample CAG 4°C  
Scan 1 8300 mg  
Heated 4 amp

DSC

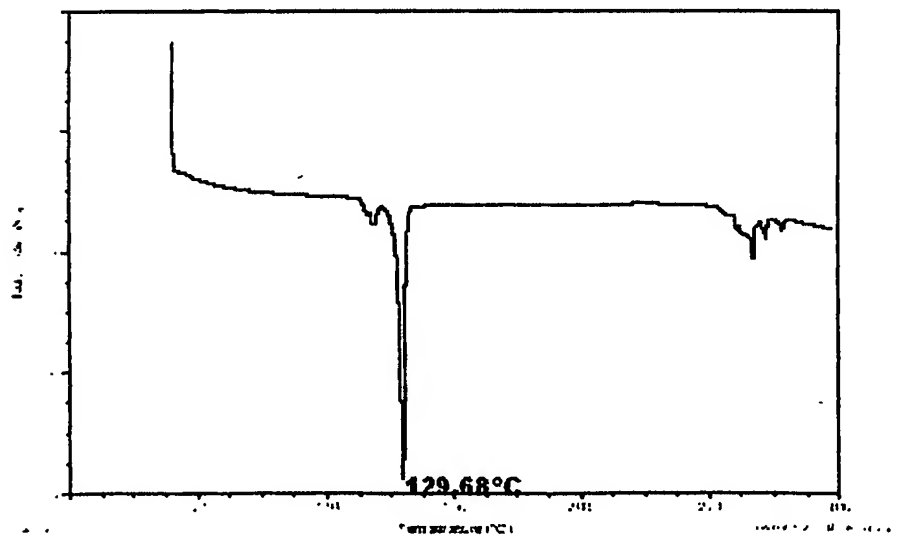


Figure 60

Weight loss (%) vs. Temperature (°C)  
Sample: 1.0000g  
Heated: 10.00g  
Sample: 1.0000g  
Sample: 1.0000g

TGA

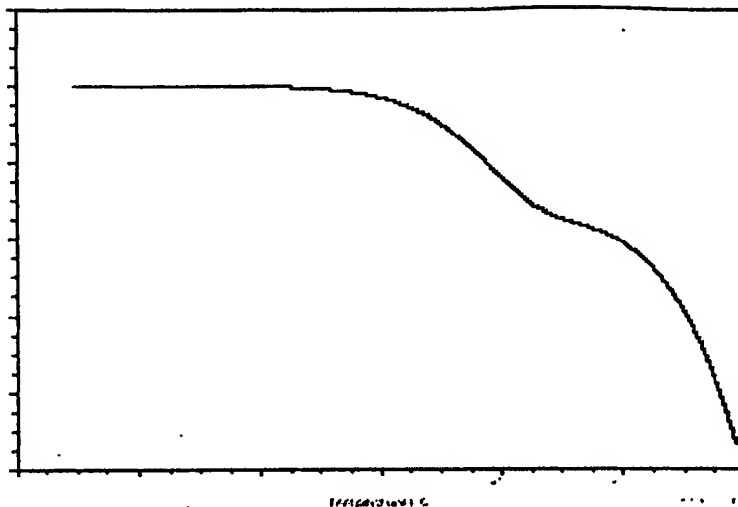


Figure 61

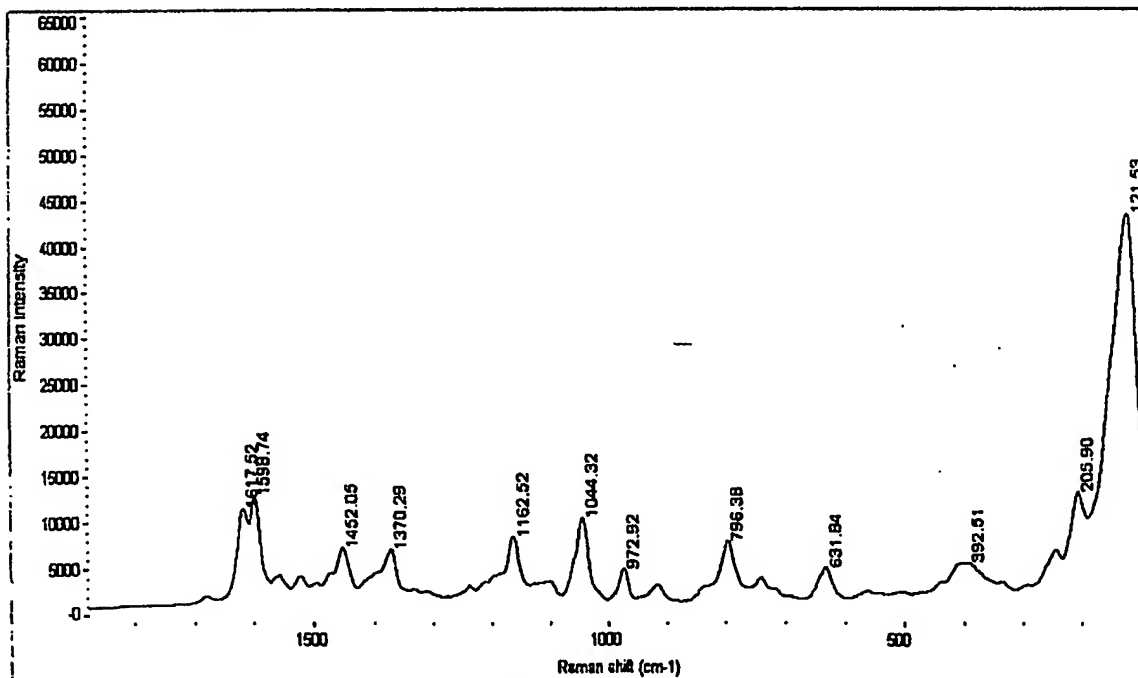
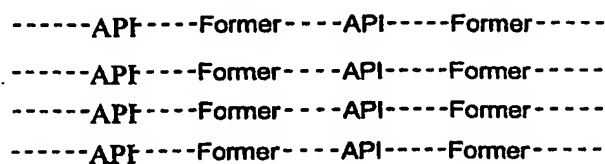


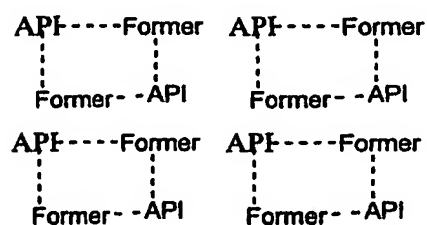
Figure 62

**(Figure 63)**

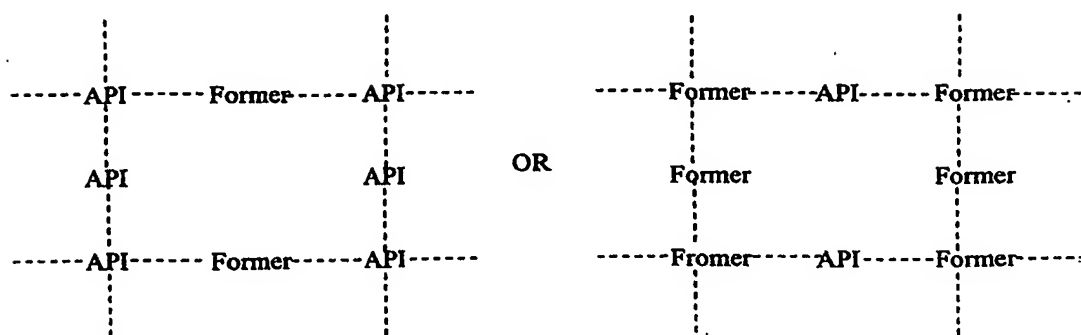
1. **One-dimensional (linear) hydrogen-bonded chains:**



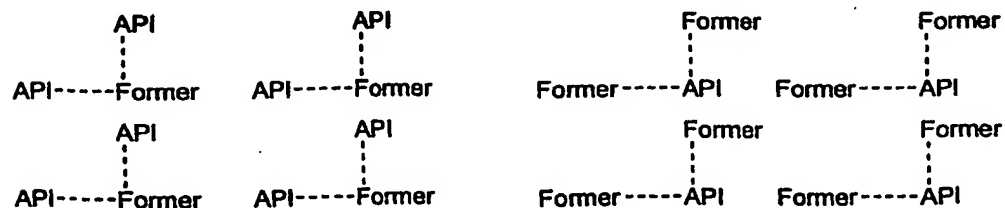
- 2. Isolated rings:**



- ### 3. Extended Networks:



- #### 4. Isolated triads:



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